648 177 [439] their home country. American troops, by their equal treatment of Negro soldiers, created the impression that racial barriers had no place in their society[1] The troops' friendliness to the Papuans was tangibly expressed by gifts, not only of tobacco and other small luxuries, but also of discarded tools and equipment still used in villages today. It is in these events that the Orokaiva saw the portent of the coming of a new era.

731 *The Eruption of Mount Lamington.* In 1951, a Peléan eruption occurred on Mount Lamington. The *nuée ardente* produced by this eruption completely devastated a surrounding area of 68 sq. miles (Taylor 1958). Almost 4,000 people were killed and there were hardly any survivors of the numerous Sangara tribe. Those who did survive were provided with food, medicines and other comforts by the government and were for some time maintained in evacuation camps. The evacuees were not at once allowed to return to their villages as the authorities feared further explosions in the mountain. Some officials saw in this sequence of events a chance to create Papuan model communities with up-to-date socio-economic institutions. These plans for village reform, whatever their merits, were not realised at that time, partly because the danger of further explosions was soon greatly reduced, in the view of vulcanologists, so that the people were allowed to go back to their old village sites; partly also, because the reforms were not favoured by the Australian administration which assumed power after the defeat of the Labour Government in 1951.

648 657 [464] [434] *Intensification of Development Policy.* Large scale, expertly planned social, economic and political development did not start in Papua until around 1960 (Parker 1966:189). In the economic sphere the first major development success was the building up of a coffee industry based on the production of indigenous growers using their own village land. While by far the largest quantity of this coffee is grown in the Highlands, the yield in the Northern District was enough to assure to any Orokaiva who entered the scheme an income of something like $60–100, in the year 1966–67. During that year all the villages I visited, both on the foothills and in the plains, were producing coffee. It was an activity in which any able-bodied man resident in a village would normally engage to a greater or lesser extent. Several factors aided the development of this industry.

[242] Agricultural extension work to train the population of the Northern District in coffee growing began immediately after the eruption. A training school was set up in Popondetta. Papuan agricultural assistants were trained to give basic instruction and to distribute seed. These assistants spread knowledge not only while they were employed by the government, but even more when they went back to their villages and grew their own coffee.

648 657 423 Title improvement work is also beginning to contribute to agricultural development. Until 1956, the government kept entirely aloof from indigenous tenure problems and passed no ordinances enabling it to adjudicate in land disputes. By that time, however, it had become obvious that commercial arboriculture could be developed only to a limited extent unless a land registry was introduced and the traditional Orokaiva principle of maintaining residual rights in land was adandoned. Though the first attempts to change the land tenure system were unsuccessful, in 1967 it looked as though a very satisfactory procedure had been worked out. (See Ch. V.)

648 657 491 Road improvement was another necessary preliminary to significant village

539 a victim and Christ's Passion. He also pointed out that by performing this chant,
776 the dancers were sacrificing their bodies to Christ. There was no harm in this
performance, he said, because the sentiments in both forms of religion were the
177 same.

[535] Councillor Ase added a more earthy dimension to the pastor's words when he
declared that it was Jesus Christ who had given the Papuans the benefit of wage labour. This sentiment might have appealed to Governor Murray. It completes the image of Jesus as *dema*. First, Jesus was killed and gave His body to mankind, or to His followers, by being crucified. His body is still being consumed at Communion services, the deep sacredness of which the Papuans recognise. He also left behind him immense *gifts*: the technology (cargo) of the white man, and money with which men may acquire this cargo. Wage labour is one of the means now open to the Papuans for acquiring at least a little of this money and cargo. Thirdly, like all *dema*, he left behind a set of rules which men have to follow if they are to obtain full access to the particular kind of *ivo* he bequeathed upon mankind.

182 It now becomes a little clearer how the Orokaiva have found a rationale,
satisfying to themselves, for the behaviour patterns they are adopting in response
771 to the impact of white power. The coming of the white man is viewed as an
776 event of the same magnitude as the addition of a new *dema* to the pantheon.
The most crucial fact about this new *dema* is that it was through his help that
177 the white man obtained extraordinary wealth and power. It was hinted to me
from time to time that the white man should have been far more generous in
sharing this wealth and power with the Papuans. At the same time, however, it
was emphasised that the Orokaiva had already received some substantial
benefits, for example the introduction of money, wage labour and cash
[623] cropping. My informant the councillor, whose contact with white authority had
been somewhat closer than was usual in the district, claimed special knowledge
[115] about how European-type power might be obtained. It was on the basis of this
knowledge that he felt entitled to advise his people to shift to another village.
But his audience did not really believe he knew anything.

While the councillor's competence was doubted, his basic ideas were generally accepted: Orokaiva progress was thought to depend on the following of prescriptions originating from the *dema* Jesus Christ. The white man had revealed only part of these prescriptions. (In this respect Orokaiva beliefs resembled those reported by Burridge 1960, 1969.) It was thought, moreover, that these rules prescribed ritual acts performed for the first time by Jesus Christ and now imitated by those who are fully initiated in His mysteries. While these Orokaiva beliefs may impede their understanding of the workings of white society, they do provide a rationale for those white behaviour patterns which Orokaiva are able to observe. They also provide a charter for the changes Orokaiva are actually adopting in their exchange system and elsewhere.

177 One experience at Hohorita made me aware how closely the introduction of
Western culture is identified with the action of traditional *dema*. Due to the
773 death of most of the older men of the Sangara tribe at the time of the eruption,
[731] their descendants grew up at Hohorita without much knowledge of myths and
traditions. Nonetheless, when I visited the village, a number of men spent several
nights with me telling me what they knew. Their information would mostly be

so formidable and irresistible as to leave open no other option. For many 797
Orokaiva, this became a certainty only as a result of what to us would seem an 177
entirely unconnected event, namely the Mount Lamington eruption of 1951. 829
The effect of this eruption on Orokaiva ideology is worth a brief analysis here
because it provides evidence that the 'new day' ideology is still essentially based
on the traditional exchange-oriented Orokaiva philosophy. We find that the 823
cataclysm was universally ascribed by the Orokaiva to the breakdown in an [731]
exchange relationship with some *dema*, and that many believed this *dema* to
have been the Christian God. On the basis of this theory, the Orokaiva were led
to search for more effective mediating links between themselves and these
powers, so as to avoid similar misfortunes in the future. Development activity
and baptism were the most important of the mediating elements in which they
placed their faith.

As I have already published a full survey of Orokaiva explanations of the
eruption (Schwimmer 1969), my summary here will be brief. In 1966, during visits [101]
to Inonda, Hohorita and Sivepe, I interviewed a number of survivors about
the explanation of the disaster given by people *at the time it occurred.* All 823
informants were agreed that at that time the increasing rumbling in the 789
mountain, the tremors, the smoke issuing from the crater, the showers of ash,
the emission of stones and fiery particles, and finally the Peléan eruption, were [776]
all ascribed to the anger[6] of Sumbiripa, the god of the mountain, though there
were varying explanations of the probable cause of that anger. These statements
tallied with published evidence from two clergymen, both present in the
Northern District at the time of the eruption, who refer to the people's fear of
the anger of Sumbiripa (Tomlin 1951, Benson 1955).

Evidence of a different kind comes from two anthropologists (Belshaw 1951, Keesing 1953) both of whom interviewed survivors a few weeks after the disaster. Belshaw summarises Orokaiva explanations as follows:

> Some people said that this was God's visitation because they had disobeyed the Bishop's instructions to build new churches. Others said that God had punished them because they had not helped the Allies sufficiently during the war and because some of them had betrayed missionaries to the Japanese. (Others again mentioned) lack of co-operation in Mission and Government plans for development. (1951: 242)

Keesing agrees with this summary, adding that the eruption resulted in 'strong feelings of insecurity and even of guilt in their retrospective look at the pre-eruption way of life'.

Many resident Europeans, including the Bishop of New Guinea, the Most Rev. David Hand, confirmed Belshaw's and Keesing's account, but the Bishop told me that the mission has since discouraged the Orokaiva from thinking that the Christian God harboured anger against them and expressed it with such indiscriminate violence.[7] Hence this explanation is no longer heard. People nowadays believe that the eruption was caused by the anger of Sumbiripa or, if they wish to display a modern scientific attitude, they will repeat what they have been told about vulcanology.

Explanations based on the anger of Sumbiripa, the government and the [775]
Christian God resemble each other in that they are all based on the concept of a

the men who carried the coffee to Higaturu each Saturday were 465
each given a stick of tobacco. By 1950 the basis of payment had
been changed and producers were paid immediately and in cash
for their produce.

The post-war drive did not last long and when official 433
pressures were relaxed production dropped markedly. During
1949-50 extension staff made a further attempt to revive the 241
scheme: seven plantations in the Higaturu area were fully re-
habilitated and similar work was proposed for the plantations
east of Popondetta. New processing equipment was purchased 731
and a new coffee factory built at Higaturu, but it was hardly 433
completed when Mt. Lamington erupted early in 1951 destroying
the factory and many of the plantations as well. Production 241
from the plantations scheme ceased as a result of the eruption, [133]
but it is doubtful whether it would have continued for long in any
case. The price was low,(1) no external sanctions were im-
posed (and the people were not permitted to impose their own
sanctions) and in many instances there was dispute over the
shares to be given to landowners, supervisors, and others. In 433
1955 extension staff made a third and final attempt to revive the 241
scheme, but it too met with little long term success.

No precise production figures are available for the plantations scheme in the Northern District, but as this scheme produced most of the coffee exported from Papua, total exports from the colony give an indication of the pattern which applied in the Northern District. These are listed in Table 3 below.

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(1) In 1950 coffee was being bought in cherry at 2d per pound which is equal to about [435]
10d per pound for parchment coffee. Data published in P.A.R. 1949-50 : 17 show
that 40,160 man-hours were worked on the 56 acres of coffee then in production and
that £767.12.3 was received from coffee sales. Making no allowance for establish- [465]
ment costs, this represents 4½d per hour worked.

245 ment coffee pulping machine was withdrawn. Supervision of
the coffee was taken over by the village constable (who had been
in charge of the coffee before the war) but no records of
attendance were kept. Later, at the constable's suggestion, a
Patrol Officer is said to have appointed one Haruma (who is a
classificatory brother of the constable's wife) as coffee boss.
This must have been an unofficial appointment as he was not
[578] paid. There was by this time a continuing dispute about the
distribution of income from the coffee.

The Hoiwo'undi sub-clan, on whose land the Ongoho
578 coffee was planted, claimed a larger share of the proceeds
423 because the land was "theirs". As no agreement was reached,
the Hoiwo'undi forbade members of other sub-clans to enter the
614 coffee gardens. This prohibition was respected even though
many people felt it to have been unjust. Legally of course
neither Hoiwo'undi nor any other sub-clan had any right to the
land, because the whole garden area had been purchased by the
Crown in 1922 and set aside as a reserve for the purpose of a
native plantation in 1923. But security of tenure is dependent
much more on beliefs than it is on law and in fact the people do
not concede the government's right to the land. All are agreed
that it is Hoiwo'undi land, though the other sub-clans consider
that as everybody cleared the bush and planted the trees, it is
unjust that Hoiwo'undi should have denied them access. No-
[241] body, however, seems to deny their right to do so. In fact
Hoiwo'undi people had been using the front part of the area for
a food garden before the community coffee plantation was es-
tablished. One family of Akute'undi sub-clan had also been
gardening there with the approval of Hoiwo'undi. The coffee
boss (Haruma) was also the leader of the Hoiwo'undi sub-clan.

For a time the community garden was abandoned
245 altogether, but later some Hoiwo'undi people harvested coffee
there spasmodically. The income was shared within Hoiwo'undi.
No weeding, pruning or other maintenance work was carried
73 out at this period. At the time of the Mt. Lamington eruption
in 1951 all work ceased. The government coffee factory and
241 buying centre was destroyed and so were several of the com-
munity plantations.(1) Due to the trauma caused by the disaster

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(1) In fact the coffee trees grew again from seed which had been lying in the ground and which was not affected by the eruption. These self-sown trees have not been tended or thinned, however, and their productive potential today seems to be very low.

and a lack of buying facilities, no coffee was picked at Ongoho 241 until 1952. [731]

In that year a local company (R.F. Bunting & Co. Ltd.) began buying coffee. The market price was higher than it had been when the government was buying (i. e. up to 1951) and it continued to increase. Some Hoiwo'undi resumed harvesting [578] coffee from the Ongoho community block, but there was constant tension between them and the other sub-clans, Akute'undi in particular. Only a little of the coffee was picked, most of it by the village constable and the coffee boss and their close kin.(1) In 1953 they took two sacks of coffee to the Department of Agriculture [258] in order to buy a coffee pulping machine worth £21.0.0. The machine did not function properly and after several years a passing Patrol Officer took it to Popondetta for repair. The Patrol Officer was later transferred and the machine was never located again. The owners still harbour a grievance on this account.

Agricultural extension services in the district were 654 expanded during 1955-6 at the same time as the Higaturu Local 245 Government Council was being formed. (The council area embraces all except one of the community plantations). Although agricultural policy at that time was to encourage future planting by individuals rather than groups, efforts were made to increase production from existing community plantations. Extension workers visited every community plantation and wherever possible enlisted local co-operation to have undergrowth cleared and trees pruned. Not all the people at Ongoho 245 worked, but factional differences were sufficiently contained for 578 several sub-clans to work together under the supervision of [654] extension workers. Once the major task was completed and the likely to emerge. Problems of work organization and income distribution may nevertheless arise.(1) 241 614

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(1) The village constable was a member of Akute'undi sub-clan but was married to the most senior woman of Hoiwo'undi sub-clan. She has a very forceful personality, is married within her own village and is the only member of her family to have borne children. They will therefore acquire some land rights from her. [425] The land on which the community coffee is planted was previously used for gardening by her father and her brothers. Her husband was village constable and he and his lineage pick coffee, but other lineages of his sub-clan do not and he is as forceful as his wife in denying their right to do so. In fact the constable and the coffee boss (who is a classificatory brother of the constable's wife) seem to have co-operated throughout to maximise their joint advantage.

Problems of work organization: The communal plantations almost all involved several unrelated descent groups which traditionally recognized no single leader. The Orokaiva did occasionally form larger ad hoc groups for warfare and sometimes for forest clearing, but these were temporary associations directed to the achievement of a short term goal. This of itself does not preclude the formation of new and larger groupings with unitary leadership provided there is either a strong desire for group action (and the necessary institutions to direct it), or strong external sanctions to enforce it. [726]

The earliest communal plantings of coconuts and rubber by the Orokaiva were carried out under instructions from officials and sufficient pressure was exerted to ensure compliance. The pressure was not, however, maintained and the coconut and rubber trees were little cared for after planting. Nor was harvesting for market enforced. Prices were low; the coconuts were seldom made into copra and the rubber was never tapped until the time of the war.(2) 245 249 657 466

The working of the coffee planted under the Native Plantations Ordinance was strictly supervised. A village constable was in charge of each local group, the European officer in charge patrolled the area regularly, and defaulters were severely punished. The communities regarded the whole operation as one of oppression by the government. During the period that government sanctions were reduced and finally withdrawn, coffee prices were high (more than ten times higher than immediately pre-war). Many people therefore wished to continue working the coffee gardens, but the community was not traditionally equipped with adequate sanctions to ensure that individuals did their share of work, and the law specifically forbade the exercise of sanctions by any indigenous individual or group. 245 657 466 [626] [461] [626]

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(1) Since writing this we have been informed of a small (3 acre) communal tobacco-growing project which began at Soroputa in 1948 on the land of a single descent group. It was reported to have functioned efficiently until it was destroyed by the Mt. Lamington eruption in 1951. [249] [731]

(2) For details of the war-time rubber-tapping scheme see Rimoldi, 1964.

177 648 time the process of readjustment and restoration was still a major question demanding attention. A few years later the third misfortune occurred.

731 The eruption of Mt Lamington, which caused catastrophic loss
of life and dispossessed many people of their land,[1] left deep
impressions on the minds of the survivors, particularly an acute
sense of guilt which has been widely remarked upon. They felt
that God had punished them for not helping the Allies enough
during the war, and for not heeding the wishes of the mission and
the administration. Some observers ascribed both the marked
spirit of co-operation noticeable in evacuation camps and the
avowed intentions of many to obey government directions in the
[161] future, to these negative feelings (Belshaw 1951:3-6; Keesing
1951:5). By this time 'population trends indicate that with the
present percentage of children, there are likely to be consider-
[464] able increases in the future' (Plant 1951:4). The area was
closed for recruiting but this did not solve the problem of the
[797] supply of labour for reconstruction because men were drawn back
to their casual jobs on local rubber plantations and the mission
asked each village to work a day a week rebuilding mission
stations (Belshaw 1951:8).

657 [731] After the war, compensation was paid for property of the villagers which had been damaged or destroyed, and following the eruption a programme of resettlement and rehabilitation was instituted.

121 127 For our investigations, Sivepe was chosen from the villages in the Saiho Census Division mainly because it had been one of the sample villages in the Survey of Indigenous Agriculture conducted by government departments of the Territory and of Australia on behalf of the Food and Agriculture Organization's World Survey of Subsistence Agriculture. Information from the survey has provided quantitative material which, though summary, is directly comparable with results of our short survey of subsistence cultivation. The F.A.O. survey's sample was chosen by statistical methods.[2]

121 125 The interest which governed our own selection of a sample of manageable size from among Sivepe villagers - and comparable with

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[1] Several thousand of the Orokaiva on the slopes of the volcano were killed by the clouds of hot dust emitted at about 200 m.p.h. and 200°C. Sivepe was just beyond the limits of the area destroyed. The villagers spent about a year's enforced absence in evacuation camps (see p.76), but some neighbouring people who survived were absent from their land for far longer periods.

[2] Walters 1963:4.

128 Besides data collected on a standard series of topics investigated in the related series mentioned above, our report also includes discussion of the relationships between land tenure and land use on the one hand and residential and local organization on the other - questions which have been raised by anthropologists and administrators writing on this Orokaiva area.

731 178 [623] The population displaced and resettled after the eruption were almost all mountain Orokaiva; one legacy of these events was the protracted complication of land tenure, which some of the people later found an obstruction when they were caught up in a general increase in enthusiasm for cash-cropping. This coincided with the formation of the Higaturu Council whose membership consisted in large part of the mountain Orokaiva.

657 178 Community development plans made after the eruption[1] were never successfully launched, but the tenure situation in the council territory and specific areas of acute land-consciousness are the problems which patrol staff felt made it essential to regularize the tenure of cash crops at this time.

241 178 [361] In 1951 Keesing expected that the marked trend towards larger settlements witnessed after the eruption would, as a matter of course, be reversed as circumstances permitted villagers to revert to their normal horticulture involving frequent rotation of cultivated areas; paradoxically, it was in view of the spreading enthusiasm of the Orokaiva for a more intensive, commercial agriculture about 5 years later, that some mission staff anticipated similar fragmentation of the same large villages.

361 178 [121] Considerable topical interest is given to the question of the connections between settlement patterns, agricultural systems and title to land by current changes in the Orokaiva area which have implications of further radical adjustments in residential patterns. In a recent development a few local government councillors had initial success in advocating the consolidation of villages apparently as a means of establishing an economic base for the provision of local services or amenities. Members of Sivepe and other villages decided to rebuild together on land near Sasembata (E. Waddell: personal communication). Staff of the mission have [657] for many years favoured this type of settlement among its Orokaiva parishioners.[2] Although, with consistent effort, patrol staff of the Department of District Administration achieved the periodic amalgamation of pre-eruption villages, the department did not endorse the recent move and pointed out that councillors acted independently of any decision of the council or advice of its executive.

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[1] Mentioned by Belshaw 1951.

[2] See Crocombe 1964:31.

614 Although it is said that members of these clans were allies in
the past and today their local branches in the one neighbourhood
intermarry, their relationsip to one another in regard to land is
not directly determined by the recognition of the historical tie
between them.[1] Plant (1951: Appendix 2) suggests that another
informal link exists between clans whose founders are said to have
been allies or associates.

The typical dispersed clan among the mountain Orokaiva now appears to be only a social category. Its members still acknowledge common descent from a single ancestor and have inherited the same name, but this gives them no special access to each others' land. Men have only a superficial acquaintance with the land of other branches of their clan. Nor does the clan seem to function as a group in any other sphere of activity.[2]

178 In the past the scattering of clan fragments in distant villages
probably served an important function in facilitating travel, but
614 clanship has been almost wholly replaced in this capacity because
[574] a traveller now can usually receive hospitality from various kins-
men, often closely related, who are widely dispersed, for one or
[602] another reason associated with social and economic change in the
area.

614 We have no details concerning either the present number and
[731] size of clans among the mountain Orokaiva or the extent of their
fragmentation. There is no doubt that the growth of more nucleated
[621] villages since the 1951 eruption of Mt Lamington (see Secs b. and
e. of this chapter) is a significant uncontrolled variable in any
inference from a situation preceding the eruption. Nevertheless,
we think that a reasonable indication of the present pattern of

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[1] Plant (1951:3 and Appendix 2), however, is in complete agreement with Williams (1928:126 ff.) and says that 'ownership of land is vested in the clan'; although this ownership is nominal and in practice each branch of the clan regards the land it uses as its own, people from one village agree that their clansmen elsewhere have 'every right to come and settle at their village and that land would be made available to them' and similar rights would be conceded by members of a 'parent clan' to one of its branches which has assumed a new clan name.

[2] Further information now being collected at Sivepe by the New Guinea Research Unit will show whether or not this statement holds for economic activities in general; cf. these clans with the Star Mountains patriclan (J. Pouwer in Watson, ed., 1964:136) which can 'best be characterized as a name group, since the clan name passes from father to son', and 'is neither exogamous nor corporate with respect to political, social, religious or legal matters'.

166 361 613 [425] [731] the Jegase people had no land on the Awala-Kendata road nearby, where they decided to build, they acquired rights to house-sites on the road on the land of the Be'ohuahije[1] in return for rights granted to some members of that clan to build on Jegase land 3 miles away at Awala No.1. The Jegase people had begun to move to the new village, now Binduta, when Mt Lamington erupted. Although they were outside the limits of the area of destruction the people were evacuated for safety.

The Sesevopa, a small lineage, had accompanied the Bebehupa in their moves to Korogombata, Korinasusu and Binduta.

The Berekipa and the Arehu according to the men of Bebehupa, which is the dominant Jegase lineage, are groups which have attached themselves to the authentic part of the clan. The ancestor of 2 of the 3 Berekipa householders in Sivepe had also lived at Simbehata. It is generally conceded that he was a Jegase man but he left Simbehata to establish Euru village and then moved across the Sohu River to Hamburata several miles to the east near the present Kiorota, where he cleared and laid claim to virgin land about 1910.

[682] The father's father (b1)[2] of the oldest householder, another Jegase man from Simbehata village, was killed near Divinikovari in a feud with the Togahau people. On his death his infant son (c1) was adopted by his wife's brother at Hamburata village and his land was taken over by other Jegase men. The son had been named after a Timumu man[3] of Euru village who allocated a parcel of land for his use, when, as an adult, he returned from Hamburata relinquishing any land rights he held there. He gardened for some time on the land of his sister's husband, a Be'ohuahije man but re-established rights to a number of parcels of his father's land which had been controlled by Bebehupa and Arehu lineages in his absence. He founded Pusahambo village on this land about 1920 and was joined by his wife's brother, a descendant of the first migrant from Simbehata to Hamburata. When he died at Pusahambo his sister's son (d2J) married his widow[4] and adopted one of his sons, now head of the second Berekipa household in Sivepe (d3J). This man's son is the third Berekipa household head (e2J).

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[1] The Be'ohuahije formerly lived in the nearby villages of Saunhambo and Hehereta and their land adjoins Sivepe village.

[2] See Genealogy, p.52. A

[3] For relationship between namesakes (tato) see Williams 1930:96.

[4] See Williams 1930:132: 'There is no rule against marrying out of one's generation.'

A, [See Category 601, p. 52--Analyst]

166 361 613 of the 2 senior men of Sivepe had divided their allegiance between branches of the clan at Euru and Soroputa and had exercised rights to land near both places. Since the death of his father the Pekuma man (d1T) has lived first in Euru and then Sivepe with his mother's kin and later his wife's kin. He and his adopted son (e1T) hold 28 acres nearby but he has never cultivated the land his father used at Soroputa; he sometimes obtains the permission of his father's brother to collect the produce from trees his father planted (see p.24).[A]

About the time the older Hajejopa man (d15T) established his household at Euru, he was involved in a dispute with his father's kin from Soroputa who wanted him to return or else relinquish his rights to the land his father had cultivated there before settling permanently at Euru. Like the Pekuma man he preferred to settle on the comparatively large landholdings (18 acres) near Sivepe and severed most connections with Soroputa.

731 361 (ii) Changes following the 1951 eruption. Sivepe-Pamba and Binduta were a few miles outside the area destroyed by the major eruption. Referring to the population of these marginal areas Keesing (1951:3) says that 'after the first panic of scattering... local groupings were in the main able to reassemble in the regional camps with such official aid as was necessary'. Refugees from the west side of the mountain were collected from emergency encampments along the Kokoda road and taken to a regional camp first at Wairope and then at Ilimo near the Kumusi River. The villages of the Jegase and Timumu were included in the danger zone which was defined about 4 months after the first eruption. They were about 7 miles from the summit and the danger area extended for 8 to 12 miles around the active crater.

When the limits of the zone were determined about 3,000 people whose villages were not closed off or who could find kinsmen to live with in resettlement areas outside the zone left the refugee camps. Most of the 2,000 who remained for some time at Ilimo were from the villages such as Sivepe on the more fertile land higher up the west and north-west slopes. Members of our sample however left to live with clansmen or other kin at Awala No.2 on the main road. [578] In the chain of fairly continuous settlements which grew along the road great uncertainty surrounded land use problems. There were frequent moves, uncertain titles, disputes over tenure, and conflicting authority among leaders from different local and kin groups.

Most of these villages were still partially dependent on emergency rations issued to them while breaking in new gardens. Some of the Jegase people in Awala had their own small pockets of land nearby where they planted emergency crops and foraged; some made excursions during the day into the closed area to collect

[A] [See Category 428, p. 24--Analyst]

731 361 food from their abandoned gardens which they found in good condition, apart from the uncontrolled growth of weeds.

No doubt minor adjustments in the distribution of land rights were made in the course of resettlement of the land around Sivepe when the people returned after a year's absence. But they would not have been faced with the major problems met with in the crowded resettlement areas with large numbers of immigrants. When the people of old Sivepe-Pamba returned from the evacuation camp they re-established their village on its old site.

613 361 [578] [177] It was not long, however, before the Timumu people became involved in a protracted dispute with members of Kongahambo village (a new resettlement concentration near Sasembata), over garden damage caused by pigs, and in order to avoid more trouble they decided to move further away to build on their land at the present site of Sivepe village. The members of Berekipa and Arehu lineages and of Seho clan remained in the old village until a Patrol Officer asked them to reunite with the Timumu people. Since the Timumu were not keen to move back and since the occupants of the old village agreed with the Patrol Officer's assertion that it was poorly drained, these Jegase and Seho people moved to Sivepe in 1953. They were given permission to build by the Timumu lineage which owned most of the land on the site.

[754] Meanwhile the Bebehupa had returned after the eruption to Binduta where they lived with Usohu people for about 8 years. Then friction between the 2 groups became too great and, following accusations of sorcery, 4 Bebehupa households came to live on pockets of lineage land within the new Sivepe. Their houses are not aligned with those of the Jegase men who arrived earlier but the other 2 clan branches tend to occupy distinct sections of the village.[1]

614 361 (iii) The distribution of other clan branches. One Jegase clan branch lives several miles west of Sivepe in Hururuta village. Another group of Jegase splintered from the local branch of the clan after protracted disputes and settled at Kakendetta near Popondetta. The Sivepe people do not know how they acquired land rights there but insist that they voluntarily relinquished all their original rights. The clan is represented in Kiorota, Nahihita and Isoge; Plant (1951: Appendix 3) also reported that there were members of the clan in Kokitate and Pondohe.

A large branch of the clan now at Suin village is said to have moved down from the slopes onto unoccupied land which lay between

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[1] The houses of parent and 1 son or a married daughter are usually adjacent but those of additional children are often located elsewhere.

434 [583] [431] was in recognition of kinship obligations including bride price and gifts while 49 per cent of income was derived from these sources.

[525] Gambling does not appear to be common within the village but intervillage visits are not infrequently arranged for this purpose. Few men in the sample claimed any significant winnings or losses for the year but during our stay some men, in one evening's gambling, lost $22 to members of another village who had already won $10 from them in 1962.

454 Nine of the 12 householders were holding personal savings at the time of our survey; in 3 instances where men had formerly been wage-earners for some time they had opened Savings Bank accounts which they retained.

A son's wife living with 1 householder had received some money from her kinsmen and some from her husband who was absent in employment. The money had been banked but was not recorded in our survey.

Apart from $60 in savings certificates maturing in 1966 which are contributions to joint accounts (see Appendix B),[A] the ratio of current savings ($10 per household) to annual income is 1:2.7. Savings had decreased by 40 per cent during 1962 but income also seems to have been considerably higher in the previous year.

In a sample of 13 men from a nearby area in 1951 Belshaw (1951:12) found that only slight withdrawals had been made from pass books issued about 2 years earlier under the War Damage Compensation scheme; almost no deposits had been made. The average account had a balance of £4 with a range from £1.17s. to £8.1s. The same people claimed to hold other cash in hand ranging from nil to £39 with an average of just under £10. A small part [731] of this may have been cash payments made under the scheme. Refugees from the Mt Lamington eruption received other payments later from a relief fund. We could obtain no reliable information to account for any money received by members of our sample on either occasion.

436 The evidence is slight but a comparison of the 2 small samples suggests the possibility that with an increase over 10 years in the range of sources of income and in consumer demand, money is now circulating more freely in the area.

[301] [237] [321] [555] Shell and bone ornaments (hambo) and head-dresses (di) - made from feathers of the bird-of-paradise, mountain parrots, hornbills and cassowaries - known collectively as di hambo, are held by the people of Sivepe as a category of wealth, items in ceremonial presentations and as objects of display. In traditional Orokaiva society these are prestige tokens but seem never to have served as

[TEXT CONTINUED ON PAGE 80]

[A] [See Category 454, pp. 107-108--Analyst]

241 [433] [177] [731] [466] 242 acres[1] which yielded 84 tons of hulled coffee in 1938-39. Some 1,000 cocoa trees were also planted in the pre-war period, although only the copra and coffee were worked during this time. All commercial agriculture ceased with the Japanese invasion in the second world war and was again interrupted by the eruption of Mt Lamington in 1951. The principle of compulsion was withdrawn in the same year and community enterprise largely ceased in the mid 1950s with an increasing trend towards individual plantings. The whole scheme was characterised not only by low returns to labour, delays in payment,[2] frequent disputed claims to plantings and serious problems in work organisation, but also by a definite feeling of resentment on the part of the indigenous participants.

(c) War and natural disaster

177 [731] The Orokaiva view of the government was no doubt influenced by the second world war, which led to the Japanese occupation of the Northern District from July 1942 to January 1943, and by the eruption of Mt Lamington in January 1951, causing the death of over 4,000 people and the destruction of the district headquarters and staff at Higaturu.

657 [466] [687] [541] The impact of the Japanese invasion and subsequent Allied re-advance has never been assessed but must be considered profound. All Australian administration ceased and, when resumed, was vested in the Australian New Guinea Administrative Unit (ANGAU), a military authority. Several thousand men co-opted as carriers by both Australians and Japanese worked under very arduous conditions.[3] Since the Orokaiva lay athwart the main Buna-Kokoda route which was the scene of fierce fighting, many villagers retreated into the surrounding hills where they were obliged to subsist on very limited resources because of the absence of much of the potential labour force.[4] Others sided with the Japanese or profited by the power vacuum to attack or betray Allied troops and civilians or to assert their authority over other Orokaiva. On resumption of Australian rule, twenty-two men were sentenced for such deeds by a military tribunal and publicly hanged at Sangara and Higaturu.[5]

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[1] An estimated 111,000 trees at a spacing of 10 by 10 feet.

[2] As much as three years lapsing between delivery and payment (see DDA, DS-17-4-5).

[3] For details of terms for the conscription and of conditions, see McCarthy 1959:116, 132.

[065] [4] A 1948 report refers to a rapidly decreasing population on the northern slopes of Mt Lamington and attributes it in part to the war when many died from malnutrition while hiding in the bush (Higaturu 29-8-33).

[5] A European informant stated that 'several thousand Orokaiva' witnessed the execution, the women 'wailing and mutilating themselves'.

461 In 1944 attempts were made to revive the communal plantations but employment by the American military in the Inonda-Oro Bay area and other work for Allied troops made the people revise their ideas on the value of their labour[1] and resulted in a general lack of enthusiasm for the cash cropping schemes.

731 The eruption of Mt Lamington and the subsequent floods destroyed many villages and gardens and some 5,000 survivors had to be evacuated to refugee camps at Oro Bay and Ilimo. While the majority were resettled within four months, 1,500 people from within a 'danger area' of eight to twelve miles around the active crater were obliged to remain at Ilimo camp until July 1951, or live with clansmen elsewhere, and re-occupied their villages only over a period of years.[2]

731 Many Orokaiva viewed the disaster as divine punishment, in
particular for their lack of co-operation with governmental and
823 mission programmes,[3] and they were reported to deeply appreciate
the extensive relief measures, including food, tools and medical
services, provided by the Administration. Subsequent Administration
464 reports remark on the willing co-operation of the people in voluntary road construction and their renewed interest in cash cropping.[4] However, once the need for producing food as a relief measure had passed, all staff of the Department of Agriculture were withdrawn from the District. Interest waned and was reported to be 'completely dead' in 1953.[5]

(d) Activities of the Anglican mission

797 Apart from very limited activity by Seventh Day Adventists in the Pongani area and Lutherans among highland labourers at Sangara, the Anglican church is the only mission working in the Popondetta sub-district. It first established itself at the Mambare River in 1900 and activities were gradually extended southward along the coast, but it was not until the 1930s that stations were established among the inland Orokaiva, at Isivita and Sangara. In 1965 the

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[1] Patrol Report, Higaturu, 1543/44; Crocombe 1964:21.

[2] See Rimoldi 1966:45-6 for a fuller description.

[3] Belshaw 1951b:242; Keesing 1952:18. However, some informants viewed it as punishing the Europeans (thirty-four of whom were killed) either for the hangings at Higaturu and Sangara, or for not having provided the Orokaiva with education and access to income.

[4] This was in part an expression of the high prices obtaining during the Korean War.

[5] DDA, Popondetta, DS-17-4-5.

241 [464] universally small and there is no evidence to suggest that any village producers are employing labour to increase production.[1]

454 Monetary investment at the village level is low and there are no motor vehicles owned by individuals or groups of subsistence 493 villagers,[2] although a number of villages now possess copra driers and coffee pulping machines.

407 The foregoing data suggest three main factors, largely unique to the sub-district, which may explain this situation.

464 (i) Labour shortages. Since pacification there have been repeated references to a high proportion of the adult male labour force being absent from their villages. Humphries (1923:203) refers to the Kumusi district being a 'famous recruiting-ground for plantation labourers' at the time of the first world war. Patrol reports after the second world war make periodic references to shortages of manpower in the villages and suggest that the regulation maximum of 30 per cent absent was at times exceeded (e.g. Higaturu 1-1543/44). The establishment of plantations under the ex-servicemen's credit scheme attracted much local labour at a time when returns from wage [461] labour were considerably higher than those from cash cropping. Many Orokaiva still prefer wage labour to commercial agriculture as a source of cash.

731 433 (ii) Consequences of the disasters. The effects of the war and the volcanic eruption served to accentuate the instability of settlement and fragmentation of groups. Resettlement after the eruption took several years in some cases and is likely to have deterred interest in planting commercial trees, at least in the directly affected area, which was the most densely settled part of the Orokaiva region. The findings quoted earlier[3] suggest that the initial Orokaiva adaption to the volcanic disaster was more active

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[1] Since our survey, one Inonda man has taken a job as a driver in Popondetta and employs a labourer at $3 per week to maintain his food gardens. For a description of four Orokaiva entrepreneurs with large holdings of cash crops see Crocombe 1967.

[439] [461] [465] [2] With the single exception of the indigenous ex-servicemen settlers, several of whom own vehicles; imported foodstuffs comprise a significant element of their diet and considerable use is made of outside labour, commonly kinsmen. Payment, however, is often nominal or in kind.

[3] See p.16.A

A,[See Category 731, p.16--Analyst]

73 [433] than might have been expected.[1] However, the withdrawal of the relief teams, including agricultural officers, after the emergency, may have left the people in a psychologically and technologically deprived state, thus further inhibiting their concern with commerce.

[178] [171] The instability of settlement consequent upon these disturbances may also have impeded the evolution of such new forms of leadership and effective group action as have occurred among the Tolai.[2] The careers of such new leaders as were emerging, perhaps with wider group loyalties, have frequently ended catastrophically at important points.[3]

177 [797] [657] (iii) Lack of co-ordination between the Anglican mission and the Administration. Keesing (1952:21-2) refers to the 'delicate' matter of 'Government versus Mission responsibilities' and alludes to the 'rivalry' between them in connection with the post-Lamington rehabilitation programme.[4] These two agencies are the most potent external forces operating on Orokaiva society and their activities and demands are not co-ordinated, thus accentuating the difficulties of implementing a consistent development policy. Their demands on the villagers' time may conflict, and their views on such important matters as the purpose of education, the role of the teacher and the role of commerce are at variance. The Anglican mission has no formal representation at the policy-making levels in the District though it has great influence in the villages.

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[1] Sjoberg, an authority on disaster research, states (1962:363): 'A typical adaption [to disaster in pre-literate societies] is resignation to one's fate. When catastrophe is thought to be engendered primarily by spiritual forces, man can himself do little to alter the course of events apart from recourse to religious and/or magical practices. Recall that he assumes the immutability of the natural-divine order, which includes also the social arrangements about him. Add to this the meagerness of technological know-how of the sort that would be useful in disaster rehabilitation and we see that mute acceptance of one's lot is the logical result.'

[2] See Salisbury 1962:338.

[3] For instance, the 'renegade' leaders hanged at Higaturu and Sangara; the administrative staff, teachers and the twenty priests-in-training who died at Higaturu in the Mt Lamington eruption, and [166] the Orokaiva leader of the co-operative movement who also died at that time. Many of the most talented Orokaiva are serving outside the region in government, missions and commerce.

[4] Belshaw (1951:248) makes a similar allusion.

649 Kokoda. The invasion brought a much higher degree of cultural
177 contact and upheaval by both the occupation of the Japanese and
the counter-occupation by the Australian forces. Another dramatic
731 upheaval took place in 1951 when Mt Lamington erupted, killing some
4,000 Orokaivas and Europeans. This caused a mass evacuation from
the traditional home villages and the temporary settlement in
collective camps outside the declared contaminated area. The
temporary resettlement caused much friction (Keesing 1951).

797 Mission influence is strong in the Northern District. This is
provided almost exclusively by the Anglican church and is of a
fairly orthodox nature. Mission influence is mixed somewhat with
traditional beliefs and there is an air of mysticism about the
resultant religious system. Education is predominantly through a
871 system of mission schools, partly financed by the Government
875 Department of Education. The schools are staffed by both European
and Orokaiva teachers and use an approved syllabus. The teachers
are dedicated but often not substantially better educated than
their pupils. Many of the Papuan teachers are educated only to
Standard 4.

177 There is currently some covert aggression towards the European
settlers, some of whom reciprocate in a more overt manner. The
563 history of European contact has not always been happy. Frequent
misunderstanding and misinterpretation by both sides has led to
strained social relations in many cases. The initial settlement
of Europeans in the area resulted in bloodshed and ill-feeling.
Early miners and police both had cause to fear the Orokaiva. Later
government attempts to enforce cash cropping met strong resistance
in some areas. The Japanese invasion and its subsequent defeat led
to many confusing and bewildering Orokaiva deaths. Since the last
war there has been some improvement of the race relations - but
they are still basically seen in some type of dominance relation-
[797] ship, e.g., master - labourer, teacher - pupil, etc. The Anglican
church has ordained a few priests and in general has congenial
relations with the Orokaiva, yet this does not necessarily suggest
a closer empathy with or understanding of the people. The Orokaiva
regard some resident Europeans as welcome and fairly warmly received
and others as being unwelcome trespassers. More Europeans appear
to be in the latter category than is generally realized.

Like any enclave in a foreign country the European settlers attribute stereotyped characteristics of personality and temperament to particular local groups. This process of one group classifying another into psychological types provides a working basis for interaction. The Orokaiva were quickly allotted a stereotype and this came to be reinforced as the ascribed characteristics were searched for and found. The Orokaiva were classed as being 'surly', 'resentful', 'sulking', 'good policemen but need

474 support, a peak number of 19 households being engaged during 1949.
241 In 1950-1 Samuel attended a nine month's training course in Port Moresby at the invitation of the Administration Co-operative Officer. Samuel attempted to ensure the continuity of his scheme by appointing and training three men to oversee operations during his absence. Two of the men chosen were Yega men with close affinal ties with Samuel, the third was a Bapa man having only a remote kinship link but particular ability. The scheme continued to function smoothly during 1950. Samuel's plan was to grow annual cash crops and to build up a reserve fund for the first few years, then to undertake tree-cropping. He bought cocoa pods and had the seeds planted in a nursery in January 1951. During his training period Samuel made two trips to Gona to observe the progress of the co-
[731] operative. On the second of these visits he took his daughter to the hospital at Higaturu and was among the 4000 killed when Mt Lamington erupted on 21 January. After his death no more cash crops were planted at Garara. No one knows what became of the money received but none was ever distributed to members of the Gombe Co-operative.

474 The mission-sponsored Christian co-operative embraced more people and a much greater area than the Gombe Co-operative. The
241 Anglican Mission at Gona is responsible for an area that stretches
177 approximately 30 miles north and 15 miles south and extends in a
797 rough arc 5 to 10 miles inland. Little information was available from the mission records, but it seemed likely that the Christian co-operative, named the Gona Co-operative Society, was launched during April or May 1947, that membership among the Yega was almost universal (apart from the members of the Gombe Co-operative) and that there was no fixed share payment, each adult male contributing what he could afford. A large store was built.

[657] In September 1947 Mr John Millar, government officer in charge of co-operative development in the Territory, visited Gona and addressed a meeting of 500 people in the new store, explaining the Administration's plans for co-operatives in the area. He suggested that the present Gona Co-operative Society be split into an association of eight smaller societies, each centred in its own local community.[1] The meeting agreed and Mr Millar departed. The committee assumed that theirs would be among the first co-operatives to be registered when the necessary legislation had been passed and this was the position when Father Benson departed on home leave at the beginning of December 1947.

Mr Millar's advice was implemented after April 1948 by Rev. Alfred Clint who undertook to organize and co-ordinate the

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[1] The eight societies within the association were to be centred at Gona, Garara, Bakubari, Gombe, Soputa, Buna, Huhuru and Hamburata.

OCEANIA

A JOURNAL DEVOTED TO THE STUDY OF THE NATIVE PEOPLES OF AUSTRALIA, NEW GUINEA, AND THE ISLANDS OF THE PACIFIC

VOLUME XXI JUNE 1951 NUMBER 4

SOCIAL CONSEQUENCES OF THE MOUNT LAMINGTON ERUPTION[1]

By Cyril S. Belshaw

THE eruption of Mount Lamington in the Northern Division of Papua in January, 731 1951, was accompanied by the immediate and total destruction of Government Station and Anglican Mission Station and the death of about 4,000 people. About 5,000 natives were evacuated from the blast perimeter to refugee camps at Oro Bay and Wairope; the Wairope camp was destroyed by floods a few days later and moved to Ilimo on the Kokoda Road. The villages of over 1,500 of the survivors were either destroyed or considered to be unsafe for habitation. In addition to these people those who had their gardens near the rivers which were fed from the Lamington slopes saw them destroyed by floods, while others on the Managalasi (southern) slopes of the volcano, not directly affected by blast, had gardens ruined by volcanic dust. This article is concerned principally with the survivors directly affected 121 by the blast, that is those people living between Popondetta and Wairope who either had their homes and gardens destroyed or who are acting as hosts to such refugees, and who may be described as the Periho section of the Orokaiva people.

Such a sudden and devastating experience is a shock, not only to the physical and mental systems of the people who suffer it, but to the whole fabric of society. It will be many years before all the consequences can be clearly defined: in the meantime this article may serve as a tentative analysis and in some measure a historical record.

According to European eye-witnesses now in the area, the people were disturbed 823 but not unduly frightened during the five days between the first signs of eruption and the devastating blast. The night before the blast, when the sky was darkened and tremors were felt, large numbers visited missionaries and government officers

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[1] This paper is based on a two weeks visit to the area during April and May, 1951. I wish [101] to thank His Honour the Administrator of Papua and New Guinea for making the visit possible; also the re-settlement staff, all of whom were so generous with hospitality and information.

[p. 241]

823 for advice. The tragedy is that subsequent events were unpredictable. When [731] the blast came it was so swift that there could only have been two or three minutes' warning, and the phenomenon was so far beyond experience or imagination that the people were too numbed to panic. Good order was maintained and the refugees successfully assembled in camps in a remarkably short while. Within two days camps were operating and supplied by air.

823 As the people settled and began to take stock of events, they began to seek for 731 explanations. An aeroplane had been flying close to the mountain at the time of the blast, escaping in the nick of time. One rumour had it that this aeroplane had [784] dropped a bomb. Most explanations were, however, religious in nature. Some people said that this was God's visitation because they had disobeyed the Bishop's instructions to build new churches. Others said that God had punished them because they had not helped the Allies sufficiently during the war and because some of them had betrayed missionaries to the Japanese. By April most of these specific rumours [783] had been countered. There remained, nevertheless, an almost universal belief that God had punished the people for their sins, and these sins were enumerated in general terms, such as lack of co-operation in Mission and Government plans for development. This sense of guilt is a most important factor in resettlement attitudes.

731 Another factor affecting resettlement attitudes was the speed, scale and nature of the relief measures. The war-time miracle—the rapid mobilization of resources—was repeated by the European, not for purposes of destruction but for the help of the Papuan people themselves. Once again the people asked themselves how the European was able to do this; and they were grateful that their need had been met.

Relief was not only provided in the form of rations and building sites where the people erected humpies for temporary shelter. Medical services in the camps were directed not so much towards the healing of the wounded, for few of these had survived, so much as towards the maintenance and improvement of general health. The Higaturu Hospital was completely destroyed, but excellent field dispensaries were set up at Oro Bay, Popondetta and Ilimo. At Ilimo there was also a baby welfare clinic, staffed by two European nurses and Papuan assistants. In a few weeks the Ilimo dispensary and clinic had established itself as a popular institution, serving the needs of surrounding villages as well as of the camp. The large numbers treated bore ample testimony to the scale of medical need in the district and the regularity of out-patient attendance was notable.

[873] The Government maintained a technical training school at Higaturu, and the Anglican Mission had an advanced school at Sangara. Both of these were destroyed with almost complete loss of staff and pupils, many of whom were almost ready for graduation. Immediate relief measures could do little to replace this critical loss. But the Mission, with Government assistance, recommenced village-level schools in the camps. At Ilimo particularly the Government started adult education classes, partly to provide something useful for the people in their leisure hours, but mainly

as a first step in their wider rehabilitation. Lectures were given by Europeans, 731 adult illiterates were taught the three "r's," sports were organized, and as a welfare measure the old people were given prepared meals in a "soup kitchen." Once again the response was enthusiastic, indicating a real demand. As refugees moved out of the camp back to villages, it was common for young men who had missed their Mission schooling, or who considered that schooling to be insufficient, to return to Ilimo for the sole purpose of continuing their instruction. Unfortunately, under the unsettled conditions they had to be sent home again.

As soon as the danger area had been determined villages outside it were restarted, leaving only 1,500 people at Ilimo by April. These 1,500 people were not permitted to return to their village sites except under special passes to obtain garden produce. An administrative officer was detailed to undertake research into native land tenure and social groupings in the area with a view to determining sites for re-settlement.[8] As a result of his recommendations these refugees were returned to certain areas of land which they were said to own, or which had been granted to them by neighbouring villages. Women remained at Ilimo until shelters had been erected for them, but by June they had rejoined their husbands and the camps were evacuated. A Government patrol post was set up at Saiho in the centre of the evacuation area, and medical facilities were transferred to Saiho from Ilimo.

The policy behind these moves was aimed at re-establishing gardens in the shortest possible time, and the building of an improved style village-system. In addition consideration was given to the possibility of large-scale community development. But there were many difficulties in the way, and the method of carrying out the policy often created further difficulties.

In *Orokaiva Society* Williams characterizes the people as being fierce fighters 157
but gentle and harmonious in their domestic and intra-group relations. Whether
or not that was true twenty years ago, Europeans with recent experience of them 152
say that they are now highly excitable, with rapidly inflamed tempers which, however, quickly subside. When under the influence of temper they are said to be violent, and to vent their violence on people near at hand, particularly wives. There is a [762]
tendency towards suicide in the case of disappointed love or the loss of children, and they will throw hysterical fits. In view of these conflicting accounts it is impossible for me to judge whether the emotional activity I observed after the volcano was a mere passing phase or represented deeper emotional states. At the same time there were a number of influences present which certainly did nothing to reduce nervous tensions.

It is not difficult to describe these. The people were in refugee camps, and the 731
atmosphere of refugee camps is almost always one of strict control, in contrast to the freedom of village life. Work had to be found to keep people occupied, and much of it was camp erection work that had no clear or immediate relevance to the desire

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[8] See memorandum by H. T. Plant, "Re-Establishment of Isivita Villages," March 24, 1951, with Map and Appendices on Land Ownership, Clans and Tribal Groupings. [113]

731 that was uppermost in the people's minds—to return to an environment of their choosing. In many cases families had been separated. Many close relatives had been killed, and in some cases it was not known whether such relatives were alive in other camps or not. Although short visits to old villages and gardens were sometimes permitted, the devastation that was seen there was always worrying, and time was not long enough for anything to be done about it. The future was uncertain; and there was always the underlying question, often expressed, "Will the volcano blow up again?" Although the people showed no signs of nervousness in the danger area, they are still not confident that our assurances of their safety outside the perimeter are correct—we have made mistakes before.

[158] It is perhaps surprising that, given this worry and tension, and an apparently highly-strung people, there were not more cases of mental derangement. Those cases I enquired about proved to be either long-standing affairs or temporary disturbances which seemed to pass. On the other hand, there was much excitement in the camps, and quarrelling and violence. Every move of the administrative staff was watched with interest, crowds would gather to hear the latest news. The presence of large squads of native police in the camps led to friction, sometimes over women, sometimes through a general resentment at being ordered about. [684] Court cases, and administrative cases settled out of court, were mainly charges of violence against wives. Some of these were led up to by sexual misbehaviour, but in many cases it seemed that there was nothing more than irritability over some [961] domestic misdoing, such as being late in carrying water. Children were frequently cuffed and beaten, and I often saw little wrongdoers being hurried away by older brothers or sisters to prevent a visitation of parental wrath.

This general irritability was carried back into the villages, where worry was not 731 very much less than in the camps, and even the degree of daily control by European 657 authority was maintained as far as possible. For here administrative officers tended to enter into the minutiæ of daily life, marking the spots where the houses had to go, decreeing the layout of the village, often when the people thought they would be [578] better employed elsewhere. An example of village violence occurred in the new Popota while I was there. At this time women with small children were expected to remain at Ilimo camp until husbands had built them adequate shelters. Many of the women resented this, and some slipped into the bush and back to their husbands. In this particular case the baby lost a little weight when it returned to the village. The husband told the woman that she should have stayed near the clinic in camp. The women, resentful at this lack of appreciation of her presence, lost her temper and rushed at her husband with a knife. The husband swung at her head with an axe, and mother and baby ended up in a Mission dispensary which had been set up some distance away. To my mind this incident sums up many of the relevant points—the impression made by the new services, the urgent desire even of the women to be getting on with the job, and the domestic tensions and irritability that resulted from the situation.

Before the eruption, a new type of village had been established in the Kokoda 657
sub-district, consisting of a large village square of neatly clipped grass, with houses
arranged in a single row along three sides of it. Although such villages have a 361
monotonous regularity and lack of individual character, Europeans think of them [363]
as being æsthetically attractive, and they appeal to the administrative officer's
sense of the fitness of uniformity in a well-ordered community. Attempts to
introduce such villages in the Higaturu sub-district had largely failed, and the
standard of housing was much lower. Further the people of this area tended to
live in small clan-hamlets and resisted propaganda for them to come together into
larger village groups. After the eruption, however, the general desire for new things, 177
the sense of guilt at having resisted such innovations before, and a feeling of insecurity
combined to make most of the people reconsider their earlier decisions. Although
the move was not quite universal, by far the greater proportion of people decided to
rebuild their homes in large village units situated close to existing or proposed jeep
roads, and on administrative advice decided to follow the Kokoda village plan with
substantially improved housing. Such a move raises numerous social problems.

The actual decision as to who should live together in a village group was by and 621
large easy to make. Mr. Plant's enquiry, referred to earlier, showed that individual
patrilineal clans are often segments of a maximal lineage, the other segments of 613
which live in different areas, and this finding accords with Williams' material. But
in a given hamlet there would be two or more clans, not segments of the same
lineage; and a number of hamlets occupying neighbouring ground would be considered
together as a single village-group. Sometimes the village-groups were
combined as a large area-group. Thus we have the hamlets Pengipe, Isivita,
Huworituru and Bosiseta combining as Isivita No. 1 village; Egaturu, Tambori,
Koropata and Kiorata as Tambori village; and Kakita, Hamamuta, Pija and
Popondota as Popondota village; and the village-groups of Isivita No. 1, Tambori
and Popondota, together with separate hamlets of Barewaturu and Kombeturu
constitute the area-group of Isivita No. 1. Just how far these groupings result
from administrative practice we cannot tell, but it is fairly certain that they represent
genuinely-felt units. This does not, however, necessarily apply to the combination [619]
of the area-groups into tribal groups. Though the people we are considering appear
to be one in language and custom, and to regard neighbouring groups as somewhat [101]
different, they are vague as to an over-all group name. Williams calls this group the
Wasida tribe; Plant considers the correct name to be Periho. Although I think
Plant is more correct than Williams on this point, it seems to me that the people
themselves do not attach much importance to such a name.

The village-group was taken by the people as the new unit of residence. The 621
earlier hamlets would take a side or section of a side of the village square, each clan
building its houses contiguously. This meant that the residential group increased 361
in size from units of 20 to 100, to units of 125 to 400. Further, the village-groups 731
were much closer together, sometimes now being in sight of each other along the

621 main road, or even facing each other on opposite sides of it. Although this is clearly
361 the wish of the majority of the people, it does not suit all of them. There is some
talk that it increases the danger of sorcery, and certain individuals fear that it will
731 mean an increase in the burden of responsibility of the village maintenance type.
Thus some hamlets have not joined in the general move, and others have split on the question. Another question that cannot be answered at the moment is, how far was the earlier hamlet system a result of tendencies towards violence and strife in the society, and to what extent will such tendencies be overcome or intensified by the new arrangements ?

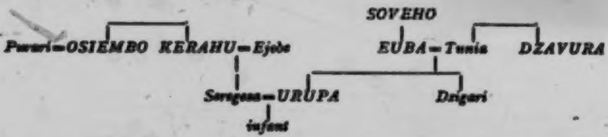
It is of course one thing to say that a hamlet or village group has land in a new part of the country suitable for their migration, and quite another to say that each individual in the group will find such a move to be the best. Looking at the matter retrospectively, it is now possible to see that many of the answers given to administrative enquiries were framed to assure the authorities that all would be well if they left the refugee camps immediately ; everything was subordinated to this end.

423 The inheritance of land is mainly patrilineal ; but a man may work his wife's
land, and even, with the assent of her relatives, inherit a share in his mother's land.
613 This means that individual members of a clan, instead of inheriting land jointly
[428] from a common ancestor, often inherit and claim land in different parts of the country
through matrilineal or marital influences. A clan, however, lives together and its
members work land near their residence. Because of influences which lie outside
the direct patrilineal line, or because of fragmentation, the person who has senior
authority over this land may or may not be the genealogically senior member of
[554] the clan. At any rate, he is given a special title, *enda mamo*, or "father of the
land." If the clan finds it necessary to move its residence, it will also probably
move its land-use area. This involves a change in the balance of land authority
and the emergence possibly of a new *enda mamo*. This has in fact happened in several
of the new villages.

731 At the time of my visit to the area in April, it was confidently expected that
once the people started building homes on the new sites, all would be well. In fact
361 the situation is much more fluid and unsettled. The Putemo people, for instance,
who had moved to a site almost contiguous with the magnificent new village of Sairope, had not yet settled questions of garden land. The village site was given to them by the Sairope people, but this meant removing themselves several hours away from the old garden lands, and they had not worked out to what extent they could claim land closer to them. In many cases individuals, say of the Popota hamlet, would agree to move with the hamlet. When they started building their home or inspecting the ground the real consequences of the move came home to them : it was not then merely an academic question. They considered alternative sites—their own near other new villages, their wife's, and their mother's. Often too the wife, on her return from Ilimo, would have something fresh to say about choice of site. Moves and uncertainty were frequent and it may be months before the final situation is satisfactorily sorted out. In such ways, incidentally, it is probable that new clans are formed

the final situation is satisfactorily sorted out. In such ways, incidentally, it is 000
probable that new clans are formed.

Another factor which must inevitably delay re-building is the activity needed to 731
re-establish social connections. When I was at Popota village one week-end I 262
checked on food that was being eaten, and found that although the children were carefully fed with nuts, pumpkin tops and other valuable foods, the adults were either going without food altogether or eating the despised wild yam; their taro gardens were rotten or choked with weeds. I noticed with surprise a group of people, heavily laden with bags of taro, hurrying along the road. They walked straight into the village and up to a house, and a few minutes later I heard the noise of crying
and wailing. A group of nine people were sitting in two rows facing each other 574
under the shadow of a humpy. The relationship of the whole group, with the 593
exception of two unrelated village women, is expressed in the following diagram (capitals signifies men, lower case women).



Kerahu and Ejobe lived in Popota, and their daughter Seregeza married a
Sasembata man. When the volcano erupted parents and daughter were evacuated [731]
in different directions, and although from time to time they heard news of each other
they were unable to see each other. When they returned to their villages the [431]
daughter's first thought was to visit her parents, but this could not be done until a humpy had been built and a present of food collected. On this day that they met the procedure was almost automatic: it was like a well-rehearsed play in which every actor knew his part. Seregeza sat down with her baby, and her father gently cried by her side. Her mother sat in front of her, embracing her and crying in a wail:

Nau kahare tclo tungenu
Ijota pouta tclo tungenu.

This was translated for me as "I am the girl who was chased away, to other countries,
other places chased away." Meanwhile Urupa and his family squatted on mats [516]
facing the crying group and chewing areca nut, and Purari with a village woman
relieved Seregeza of her bag of taro and began peeling it. The wailing continued for [276]
about an hour, other friends and relatives joining the group, and then conversation became general and food was eaten.

In such ways are the social connections remade. And some thought and 731
activity is being devoted to other ends as well—the dance, for instance. Although
there was no desire evident to conduct large mortuary feasts for those who had been 765
killed, it may be expected that, as gardens come back into bearing, individuals will

731 remember the dead in such ways. In the meantime one may hear the drums beating
765 in some villages as the men spontaneously come together for recreation and practice.

The programme of reconstruction, then, is very much a matter of the allocation
731 of time between such ends. To regard it simply as a matter of building houses and making gardens would be a mistake. But even within that simple framework the
311 rate of reconstruction is dependant upon the availability of resources and the organization of work. It was estimated that the re-established population would have about five acres of land per head outside the danger perimeter—over 100 to the square mile. This is small compared with other areas of Papua, but it is held to be sufficient to maintain present standards of shifting cultivation. The forest building resources, with the possible exception of grass and sago thatch, appear to be adequate for immediate purposes, and it is hoped that thatch can be imported from near by areas. But there are indications, as we shall see, that agricultural requirements may alter; and it is not certain what effect this dense population will have on permanent timber resources. As against this, the people are permitted to extend gardens into the danger perimeter provided they do not stay there overnight. Unfortunately the immediate benefits of this are reduced by the fact that taro and other gardens are choked by weeds and the roots have in many cases rotted. It will take time to build up a stock of reliable seed and to turn this into good crops.

731 Papuans, and particularly the Orokaiva, work with great vim and energy when they can work as a team, within sight and sound of each other. The melodious
461 song that rose as village groups combined to fell the forest on their new sites was exciting, and as the song died away the rhythm of the work continued, this time accompanied by back-chat and joking. All reconstruction work cannot take place with such groups—timber and cane materials, for instance, are gathered by people working apart from each other. But attempts were made to increase the frequency of directly co-operative work by a typical modern Papuan device, the allocation of work days by village constables and councillors, acting after a village meeting.
[657] The custom of Government Day, the day a week which is set aside for village hygiene and improvement, is universal in Papua. To this has been added, in some cases, a
[797] Mission Day, set aside for work in support of Missions. From this it is an easy step to allocate work for the week in such a way that most villagers will be doing the same type of job on the same day, and hence the possibilities of co-operation are increased. In most of the reconstruction villages Monday and Wednesday were set aside for house building, Tuesday and Thursday for garden work, Friday for hygiene and road construction (the latter a most important activity in the area at the present time), and Saturday free or for Mission work. This calendar was somewhat complicated by the rather inopportune demand of the Mission for a tithe of labour to expand Mission stations in the area, a task that could well wait until the people are more settled.

657 So far I have been writing mainly of the immediate problems of re-settlement. The Administration is however taking a much wider view and there is a great deal of

PREFACE

121 The following report presents data designed to be used in
"A Comparative Study of Cultural Change and Stability in Displaced
Communities," a project directed by H. G. Barnett. The report
follows closely a list of topics specified as variables in the
study. In a preliminary statement on the project, Professor
Barnett (n.d.) states the reasons why the Orokaiva, living on the
[731] slopes of Mount Lamington, were included in the project. In 1951,
Mount Lamington erupted, some 4,000 people were killed, and the
survivors were resettled under close governmental supervision.
This resettlement, as a consequence of a natural disaster, makes
the Orokaiva case comparable to the other 11 cases included in
Professor Barnett's study. The focus of our attention must
therefore be the social and other cultural consequences of this
government-sponsored resettlement.

731 I should at once note certain differences between this
Orokaiva case and most of the others included in the study. Mount
101 Lamington forms the centre of a rather populous district which is
[133] segmented into very small units socially and politically, but
which forms a definite unity in cultural respects. (See Map I.)
[361] Differences in language, social structure, political and economic
organization and material culture, in a wide area North of Mount
Lamington, and included in the Popondetta, Sohe Popondetta and
Saiho divisions of the Northern District, are so small as to be
almost insignificant. Only one of the refugee camps established
immediately after the eruption was outside this culture area, and
its occupants were shifted back to the Orokaiva district within a
few weeks. From that point onwards, people were no longer separated
from their culture but only from their land. As resettlement
proceeded, even separation from traditional land holdings was soon
terminated, so that the typical "resettled" village, though in a
different spot from the pre-eruption village, still had access to
the same land holdings.

121 In these circumstances, many of the traumatic experiences
which are the subject of the other case studies in this project are
731 not replicated in the Orokaiva case. There is no question, however,
about the serious social consequences both of the eruption and of
the large-scale government intervention that followed. To trace
these consequences at the present time is no easy task. As all
the Orokaiva returned to their own land a number of years ago, a
great part of this report is an historical reconstruction and the
Orokaiva are neither devoted nor accurate historians. Most
happenings are covered over in their memory just as the jungle
rapidly covers over past cultivations and past settlements. Some
songs, some myths, and the harrowing personal experiences remain.

731 For survivors from the settlements actually destroyed by the
eruption, the loss of many relatives remains a cataclysmic memory,
121 feelingly recounted. But the fine points of organisation of the
resettlement camps are very much harder to recover.

In this preface, my main purpose is to explain my research
648 procedure. I should also, however, mention one or two general
facts as a background to my report. The British Protectorate of
New Guinea was proclaimed in 1884; the Territory of British New
Guinea was placed under the authority of the Commonwealth of
Australia in 1902. The effective conquest and pacification of the
Northern District in which the Orokaiva live, occurred between
1894 and, say, 1906. It was to some extent speeded up by the
presence of some gold miners who had to be protected and the road
from Buna to Kokoda was built towards the end of that period.
[799] After the first world war, Europeans set up rubber plantations on
a small scale; the Anglican Mission became established, especially
along the coast. The process of pacification was a somewhat
bloodthirsty event. If the Orokaiva are asked to state when they
discovered what they call the "new day," i.e., modern civilisation,
they refer neither to this conquest, nor to the events following
the eruption, but rather to the second world war and its aftermath.

648 The Japanese conquered most of the Northern District in
1942 and were driven back, in the beginning of 1943, by the
177 combined Australian and American forces which crossed the Owen
Stanley range and defeated the Japanese along the Kokoda trail.
Some Orokaiva collaborated with the Japanese and killed or betrayed
Europeans who were left behind in the district. When the allied
forces came, the Orokaiva were able for the first time to establish
really comradely relations with white men who, moreover, were
generous with gifts and left behind much valuable equipment. The
returning Australian government developed a new colonial policy
after the war eliminating the old use of compulsion and corporal
punishment while the Anglican Mission and later the government did
much to improve educational facilities. Access to trade goods on
a major scale began about that time. Training in the handling of
cash crops, notably coffee, also dates back to the immediate post-war period. The eruption, which occurred in 1951, certainly had
significant social consequences, but it is not easy to keep these
consequences, i.e., the modernisation that can be directly ascribed
to government measures arising out of the eruption, distinct from
the policy of social development that was being followed at this
time throughout the district.

With regard to the eruption, we must distinguish three
731 types of effect: first, a part of the district, notably that
occupied by the Sangara tribe, felt the direct blast and suffered
very heavy casualties, while all survivors were evacuated; secondly,
a part of the district, occupied by several tribes, was endangered

731 by the eruption though casualties were comparatively light and was also evacuated, though opened up again shortly afterwards; thirdly, a part of the district was not evacuated at all. Some villages in this last-mentioned part of the district became hosts of evacuated groups.

121 In the present study, as in all others included in the project, two villages were chosen for special study, one that belonged to the evacuated category and one other. Furthermore, both these villages were studied at two points of time, namely the time of the eruption and the time of the field study. In order to keep to this specification, it seemed less expedient to choose as the village for special study one of those which had been depopulated by the blast. The survivors of such villages were brought together into much larger villages which still exist today and which form an interesting subject for study but reconstruction of the pre-eruption situation is virtually impossible. Often the few survivors that can be found were very young when they managed to escape and it was precisely the maturer people who almost always died. The site itself has mostly disappeared.

The evacuated village chosen for special study is therefore one where few deaths occurred due to the eruption and where the period of enforced absence was short. The disadvantage of this choice was obvious: the effect of the eruption was comparatively mild; the difference between the resettled village and the pre-eruption village was comparatively small. As against this, there were two considerations: the most traumatic experience for the depopulated villages was, of course, the loss of so many friends and relatives. Here the effect of depopulation was, from every viewpoint, far more severe than the effect of relocation. It would have been almost impossible to keep the focus of the study from shifting away from the variables chosen for comparison. Furthermore, Sivepe, the village chosen for study, had been the subject of a number of previous investigations by the New Guinea Research Unit of the Australian National University, so that useful supplementary data were to hand.

As the control community, I chose Inonda, which had similarly been a sample village where the New Guinea Research Unit had collected data. This village belonged to the category that had never been evacuated, but had played host to a village of evacuees, Sewa, which has close consanguineal links with Inonda. One might argue that a better choice of a "control community" would be one lacking all links with the eruption, but such a village would have been hard to find close to the mountain. I feel sure, in any case, that the presence of the Sewa people after the eruption did not affect the variables in which this study is interested.

While the material on Sivepe and Inonda fulfills the formal requirements of this study, I felt I should present a somewhat

823 collection of vernacular texts written by a young man from Kiorota in 1952 (White, n.d.).

773 According to all versions, a man named Sumbiri and his wife Suja went hunting on the Mountain. They stayed there for several weeks, while the husband caught wallaby and cuscus and found some birds' eggs. In three of the versions, the Mountain began to rise while Sumbiri (ignoring a taboo) slept with his wife. Several crags then formed on one of which the couple was lodged, unable to climb down. Separated from the world, they leapt into the crater that had formed between the crags. The fourth version, collected at Hohorita and belonging to the Sangara tribe, describes a fight between a pig (presumably the first pig ever hunted by man) and a large dog or dogs, during which the mountain began to change shape. Originally it was "one Mountain but now it became divided into parts so that there remained a number of peaks too steep to climb up or down." Pig and dog(s) disappeared into the hole that was formed; the man and woman found themselves separated on different crags and died of loneliness and despair. The mountain is called Sumbiripa Kanekari, "The Separation of Sumbiripa." This Sangara version is notably the richest in mythological content.

[174] Is it possible that these versions all originated after the eruption? Though it cannot be ruled out, it seems unlikely. One of them was written down by a student mission teacher as early as 1952; the Sivepe version recorded by me presents the mythical event and the eruption of 1951 as two distinct successive events. None of the events that most deeply impressed people about the eruption of 1951 (explosion, flame, darkness, wind, deaths) are incorporated at all in any of the versions. It seems more likely that the myth refers to an event remote in time and not remembered more clearly than most modern Europeans are aware of the factual basis of the Book of Genesis. Nonetheless, the myth points to an earlier structural change in the Mountain, caused by volcanic activity, and sufficiently recent to have left some impact on human memory.

Section 2: Preliminaries of the Eruption

133
731 For some time prior to the eruption, Mount Lamington behaved rather unusually. Orokaiva and Europeans each gave their own explanations for this unusual behaviour. The Europeans, being politically more powerful, were able to impose their plan on the Orokaiva. The Europeans felt no qualms in doing so, as they regarded their own views to be scientifically based, whereas the Orokaiva view was based on the presumed anger of Sumbiripa. As we shall see, this was a case where bad science was more dangerous than sound superstition.

133 Just when these preliminaries started is not clear; it may have been one week before the disaster or several weeks. The rumbling and tremors in the mountain, which were usual enough, became more severe; smoke was beginning to come out of the crater in thick puffs high into the sky; the number of craters rose from one to four or five. Ash covered the peaks, areas along the slopes became burnt; sometimes there were flashes of fire; several landslides appeared as brown streaks in the forest. Swarm-pattern earthquakes became widely felt throughout the area. On Thursday, 18 January 1951, the more active phase of the eruption began (Taylor, 1958). The emission rate increased throughout the day; the smoke gushing forth "at a great rate" varied from black to grey and spasms were noted in the crater activity. The emission was described by more distant observers as a slow-moving continuous dark-grey column ascending to many thousands of feet. A survivor who looked at the mountain through a telescope on that day noticed that a large hill had built itself up between the hills at the foot of Lamington and the mountain at the rear. That night, the mountain was shooting fire like an immense fire works. In the Sivepe area, at this time, and on Friday, stones were falling on the gardens, earthquakes were very severe and some houses had collapsed.

731 The Orokaiva interpretation of these events will be clear
from what I have already written. It is explicitly supplied by
Benson (1955) who reported that the fearsome happenings in the
mountain were ascribed to the anger of Sumbiripa. I shall show
[114] later that the same view was taken in Sivepe. The clearest description
of the state of mind of the people close to the mountain (those who
were mostly to become the victims of the blast a few days later) was
given in a letter by Margaret de Bibra, head teacher at Martyr's
School in the Sangara Anglican Mission. Miss de Bibra died during
the eruption but her letter was found after her death (White, n.d.).

> The Papuans--well, most are calm, many are
> apprehensive and some really frightened,
> especially those whose villages are near the
> mount. It is all understandable, in fact it
> is to their credit that there is no panic.
> Lamington has not been a volcano within the
> memory of living man, nor in the legend of the
> [823] people. (But see above, E. S.) True, Lamington
> is feared as the home of spirits and no local
> man--even Christian--will venture to the top.
> As one of our Church Councillors said: 'The
> mountain people do not understand. They are
> afraid. We understand a little and we are
> afraid too. Our fathers did not know of it.
> The trembling of the earth--yes, but not

> ● 731 the fire. At night it is like a torch,
> and we do not understand the sign.'

We cannot be entirely sure what the mountain people would have done had they not been under European influence. Informants at Hohorita told me that the people wished to run away, but that the Europeans persuaded them to stay. It is likely that people seriously considered leaving the mountain during the few days before the eruption, but it is also likely that they feared the dangers and troubles that would have followed their departure. Where could they have gone? How could they have found food? Most important of all: would other clans occupy their land during their absence? The evidence shows that, in the circumstances, the mountain people contented themselves with statements of their apprehensions to European authorities and placed upon them the responsibility of deciding what should be done in this unusual and frightening predicament.

The two main power centres of the Orokaiva district at that
731 time were both very close to the mountain (see Map II).A The
657 headquarters of the Northern District government administration was at Higaturu; Martyr's School and the main mission centre was at Sangara; both these places were subsequently destroyed by the blast and their residents killed. These were the foci of decision. Two of my informants were able to tell me something of what happened there: Fr. Albert McLaren, who was at Sangara until the day before the eruption and Mr. C. Searle who visited Higaturu on Friday, 19 January. Both told me of apprehensive Orokaiva asking European authorities what they should do.

The District Commissioner decided to discourage the people from leaving their home villages. He maintained throughout that there was no need to worry about the mountain. The circumstances that led him to this decision were described to me by Mr. Searle, by Mr. Paul Sebire, Assistant District Commissioner, Popondetta, in
[133] 1966 and by other informants. There had been several earlier
eruptions in the district, one at Tufi in 1943 and another at Rabaul in 1937. The District Commissioner at Higaturu, Mr. Cowley, was well informed about the former while the latter had been witnessed by the Chief Justice of the Territory, Mr. M. Philips. The District Commissioner asked the Chief Justice for an opinion and the latter overflew the mountain on Friday, 19 January, to assess the situation. The Chief Justice advised that evacuation of the station was unnecessary. On the assumption that Mount Lamington was like the other volcano which he had seen in eruption, The Chief Justice believed that Mount Lamington could not be very dangerous, seeing that emissions on such a large scale had already occurred. On that premise the pressure built up inside the mountain had already been reduced, and only relatively harmless cold ejecta could now be expected.

A [See Cat. 118, pp. End Map 2(A)-End Map 2(B)--Analyst]

731 This line of reasoning was spread around fairly rapidly.
657 According to Father Albert, a message from the District Commissioner was read in churches on the Sunday after the Chief Judge's visit, i.e., on the morning of the eruption. This message said that the volcano would erupt, but there would be no reason to worry. Ashes would come but they would be cold. People should not run away. Not only the Churches, but also the Village Constables were advised in these terms. The Village Constable at Sivepe gave me a somewhat different description of the District Commissioner's message, but it was equally reassuring. Supposedly, there was water under the volcano which would come out sooner or later. The people should be told that this would happen. People were told, said the Village Constable, people waited two or three days and then the mountain blew up.

As Sivepe is not particularly close to the district centre of Higaturu, we may notice that district organisation in 1951 must have had a rather efficient communication system, using both the Church network and the Village Constable network. The Village Constable at Sivepe told me that he used to be in very regular contact with Higaturu and that the communication came to him during a routine visit. He added that he had been asked to return the Higaturu the following Tuesday for another meeting about the volcano.

In view of the subsequent events, there has naturally been criticism of the District Commissioner because he did not order the evacuation in time while he did evacuate his own wife and child. In his defense it may be said that he was expecting a proper vulcanological investigation that would have taken place as from Monday, 22 January. Furthermore, by calling a meeting of Village Constables for Tuesday, 23 January, he showed serious concern to keep the population informed and protected. Finally, it would have been hard for two laymen like himself and the Chief Justice to spot the difference between preliminaries of the "Vulcanian" type of explosion, similar to those of Rabaul and Tufi which they expected and the disastrous Peléan explosion that actually occurred.

731 There is no evidence that any Orokaiva people fled their villages before the eruption. This is striking because their own interpretation of the events, namely the anger of Sumbiripa, was a frightening one indeed. We shall gradually come to see that the alternative of leaving their villages was, to the Orokaiva, perhaps more frightening still.

Section 3: The Day of the Eruption

121 As the eruption itself is the central event of this entire report, I shall dwell upon it in some detail. I shall discuss it 128 from five vantage points: the vulcanologist's, the experience of the Sangara people, the Sivepe and the Inonda people, and finally 133 the action of the administration. The vulcanological aspects have been fully dealt with in G. A. M. Taylor's book, The 1951 Eruption 731 of Mount Lamington, Papua (1958). Taylor writes: "At 1040 hours on Sunday, 21 January, 1951, a paroxysmal explosion burst from the crater and produced a nuée ardente which completely devastated a surrounding area of 68 square miles." This explosion had a marked resemblance to that of Mount Pelée at St. Pierre on Martinique in 1902, when 29,000 people perished in a few minutes. The effect of the Peléan type of explosion is very different from the more usual one which is called "Vulcanian," and which occurred, for instance, at the famous eruption of Vesuvius described by Pliny. One may compare it, rather, with the effect of an atomic bomb; the lethal effect of the nuée ardente seemed to be due mainly to sudden damage to the respiratory system caused by inhaling hot dust. Almost 4,000 people were killed. Destruction in the inner zone of devastation was almost complete: the rain forest on the slopes was flattened and in some places the earth was swept bare, not even stumps remaining as evidence of the previous forest cover. At Higaturu, six miles from the crater, only one house remained reasonably intact; most of the buildings on the government station were carried away. Of the people who lived in this inner zone of devastation scarcely a single one remained alive.

Taylor classified a further 2[illegible] square miles as "partially devastated," "a thin heated strip which bordered the abrupt edge of the zone of complete destruction." The survivors who saved themselves by running away from the blast all came from villages in this marginal area. The line of demarcation was rather precise; everyone from the Sangara mission station was killed, and this station lay just inside the borderline of the area of complete devastation. The people of Isivita, just outside the border of partial destruction, were mostly saved. The people now inhabiting Hohorita came from villages such as Tunana, Seemu, Sehundeturu, all of which lie in the area of partial devastation. From the village of Sombo, on the boundary of the area of complete devastation, one man escaped (Table 1).A

I interviewed members of 15 Hohorita households about their 731 experiences during the day of the eruption. Some of them escaped [124] because they happened to have gone hunting, or were visiting their mother's relatives; one man who had gone to the Sangara church that morning was saved because he had gone home to Ambogo immediately

A [See Cat. 116, p. 205--Analyst]

731 afterwards, but most of those who attended church that morning were killed at Sangara. All spoke of the cloud of fire that descended after the explosion. One man described how he saw it killing people ahead of him and how, with his brother, he ran past the burnt bodies. Another man told that the wind hit him and threw him down; for hours he remained unconscious and the people who were with him had all gone.

When the blast came, everyone near the mountain began to run away from it. In this mass flight, some near the edges of the area of devastation were saved by strange accidents, such as the couple who sat down to pray and then a wind came and blew the hot dust back to the mountain. This gust of wind was mentioned by several survivors. After the explosion, a very wide area, far beyond the area of devastation, became covered with a black cloud so that the fugitives soon found themselves running in total darkness. Most of the fugitives say that they fled to the Sangara Plantation, a point directly North of their villages and outside the immediate danger zone.

Sangara Plantation lay, and still lies, on the only "arterial" road of the district, which runs from certain coastal points to Kokoda; it also lay on the branch road which led to the pre-eruption government station at Higaturu and the pre-eruption mission station of Sangara. Thus Sangara Plantation became the first rallying point for the fugitives from the Sangara side of the Mount Lamington slopes. There was, on this first day, a steady stream of people descending on the plantation but it seems that to some extent this point was regarded as a haven of safety. It lay outside the area of partial devastation; the only effect of the eruption was the darkness enveloping the plantation and the scattering of debris. [464] The plantation, where rubber and cocoa are produced, employed a number of Orokaiva men as well as men from other districts. I shall describe later how the plantation very soon became a centre for the Australian rescue and resettlement organisation. At the same time it became a base for Orokaiva men who soon began to rush back over the devastated countryside in the hope of finding relatives who might have survived.

Along the Western slopes, the eruption caused few casualties but no less terror. The greatest immediate danger to life were fallen debris, especially large stones which formed deep pits in the village grounds and demolished some of the houses. Pumice and ashes also fell over the countryside to a depth of some inches and visibility was very low. Most people moved down the mountain slope at once, along the bush tracks but mainly along the branch road running in this direction was Mr. C. Searle's estate in Awala. Like the Sangara Plantation, this lay on the arterial road to Kokoda. It seems that some of the fugitives, including those belonging to the village now called Sivepe, stayed at this plantation

731 during the night. It did not, however, become a rallying point for resettlement organisation. It was too close to the mountain. Half an hour after the eruption, crowds of Orokaiva carrying pigs, dogs and babies, were already rushing past Awala Station westwards along the road to Kokoda. All these people from the Western slopes stopped at the Waseta Mission, a few miles past Awala, as they were reassured by the presence of a nucleus of Australian organisation. The Sivepe people and others who came from a relatively greater distance, stayed at Awala the night of January 21 and some reached Waseta the next day.

Along the Eastern side of the Mountain, among the settlements along the road to Oro Bay, there was no acute danger, but there was fear. Inonda, which was chosen as the control community, was never "resettled "in the sense that its people at any time left their village lands. When they saw the ash and smoke they did, however, consider themselves in danger because of the anger of Sumbiripa. Perhaps in response to police messages, perhaps spontaneously (Inonda informants say the latter) they shifted to the Inonda air strip, which was about a mile along the road in the direction of the coast and there waited for the white man to arrive. Meanwhile, the people of Seva, a related village close to (but well without) the line of partial destruction as shown by Taylor, evacuated their village and joined their relatives at Inonda. This was a more orderly evacuation than most, because the Papuan deacon (who lives at Inonda today and whom I interviewed) had somewhat varied the District Commissioner's message when he delivered it in church on that fatal morning. Though he followed his instructions by advising the adults to remain at Seva, he also said that they had better send their children to Inonda. Thus, when the mountain erupted some time after the service, the children had already gone. Upon arrival at Inonda, the Seva people joined their hosts and camped by the airstrip.

Section 4: The Beginning of Administrative Action

If it had not been for the influence of European administration,
this flight from the mountain would probably have been followed by
a fairly early return. Administrative measure, at first aimed
purely at the relief of distress, soon began to include measures
to restrain the fugitives from returning. These measures followed
vulcanological predictions, this time based on sound scientific
investigation, concerning the likely future behaviour of the
121 mountain. In considering administrative action, there are four
aspects to be distinguished: first, the investigation as to the
128 nature of the disaster; secondly, the organisation of food and
medical supplies and other immediate relief measure; thirdly, a

121 vulcanological study to guide future policy and fourthly, the planning of longer-term resettlement, with which this report is
128 principally concerned.

During the first day, communication was a difficult problem.
731 A plane sent to Popondetta on the day of the eruption could not land. All official radio communication channels in or near the devastation area were broken down. The government in Port Moresby was informed about the disaster by radio through a private transmitter owned by Mr. Searle and operated from Awala. In the afternoon a car containing an agricultural officer and a technician from the Anglican Mission (Mr. R. Hart) traveled from Popondetta to investigate the situation. This car, after making inquiries at Sangara Station, reached Awala and reported to the government. In the evening there was a second eruption, this time without a nuéeardente but noisier than the morning eruption, the fall of ash was heavier and much larger stones were ejected over a larger distance. The fall of ash was heavy enough to warrant the closing of the aerodrome at Port Moresby, some 140 miles away, on the following morning due to limited visibility. Searle has to stop transmitting messages from Awala as too many stones were falling and an electrical disturbance made transmission impossible. He shifted to Waseta which then became the centre of organised activity on the Western side of the mountain.

On Monday 22 January, the full resources of the administration were directed at rescue work. The Administrator, Col. J. K. Murray, and the Director of Health, Dr. J. Gunther arrived at Popondetta. Mr. Fred Kaad, an officer of the Department of District Administration (now Head of the Australian School of Pacific Administration, Sydney, where I interviewed him) was seconded from Lae to head an organisation to help the fugitives. On the Monday, he reached Popondetta and paid a brief visit to Inonda airstrip. The vulcanologist, G. A. M. Taylor, arrived the same day and began to observe the mountain which he continued to do for two years, being present for all the main active phases of the post-climactic period. At Waseta, the immediate food shortage was relieved from Mr. Searle's stores, but soon food, medicines and blankets began to be air-dropped. At Inonda, an expedition was organised to find missing people from Seva; some Seva people who had been wounded by the eruption were flown to Popondetta for treatment. Mr. W. Schleusner, from Sangara Estate, visited Higaturu and reported the devastation; he counted 200 dead. A district office was set up at Popondetta, to replace the destroyed office at Higaturu; from this office it was decided, on the same day, that refugee camps were to be established at Cape Killerton, for the Sangara survivors and all others from the Eastern and Northern side of the mountain, while the people from the West, now mostly gathered at Waseta, were to be encamped at Wairope, by the side of the Kumusi River.

731 The vulcanologist, from the facts already at his disposal, was able to warn the administration that a prolonged phase of violent explosive activity was to be expected. This is characteristic of Peléan eruptions: at Mont Pélée paroxysmal activity lasted for four months and St. Vincent produced powerful explosions ten months after its initial activity. Hence, the refugees would be in danger were they to return to their villages. A generous area was therefore at once tentatively marked off as uninhabitable; this stretched from Inonda, Higarata to Mougi to Agenahambo, to the Kumusi and in a wide circle round the rest of the mountain. Special permission was needed to enter this restricted area; thus, the refugees would be forbidden, by regulation, to return to their homes.

This policy lies at the core of the entire resettlement scheme: the inhabitants, first of the camps, later of the resettlement villages, never exercised a free choice of residence but were kept by a benevolent government from returning to places where they
[628] might come to further harm. Clearly, no other course was open to the Australian government: in its own eyes and in the eyes of the world it was responsible for the well-being of the Orokaiva survivors; the continuing danger of the volcano was a scientific fact of which the Orokaiva could not possibly be aware nor could they be expected to believe it; there were at that time no forms of political organisation such that Orokaiva leaders could have taken decisions on residence that would have been binding upon the people and such that the Australian government could have systematically approached and consulted them. The decision to relocate, therefore, from the beginning rested solely upon the Australian government. No Orokaiva participated in the discussions, held on 22 January, during which the policy was laid down. As a result of the discussions, officers went to the Sangara Estate, to Waseta, and to other centres of the affected population and transmitted the Administrator's instructions. If arguments were needed, they were clear enough and extremely cogent: the government expected further trouble at the mountain.

Section 5: The Decision to Relocate

121 Under this heading there are three aspects to consider: the
participants, the procedure and attitudes towards the necessity of
128 relocation. In the previous section I have made it clear that only
the administration participated in the decision-taking process; this
657 was in line with the then existing governmental structure. The
local government councils which today might conceivably be involved
in discussions did not yet exist in 1951. The only existing

657 intermediaries between government and people were the village constables. These were definitely not conceived by the government in the role of consultants on matters of policy. They were, however, a crucial link in the chain of command. The government was accustomed to transmit its orders directly to the village constables whose duty it then became to see that the people under their control obeyed the orders. It goes without saying that in this moment of crisis these accustomed methods of communication were followed.

731 The people who came down on the Sangara side were (judging by the ones I interviewed) no longer together in village groups. Some just said they ran to the plantation and then to Cape Killerton, others mentioned a European at the plantation who told them to go to Cape Killerton. A small band of rescue workers entered the devastated area to look for survivors. Of the casualties they carried back, an unknown number died, but 70 were evacuated to hospitals at Lae and Port Moresby. Only three of the evacuees died. (Taylor, 1958: 48.) Other casualties were treated at a field hospital in Popondetta. After the rescue workers had buried those who had died outside the area of devastation, they proceeded to Cape Killerton. The Seva people likewise went there, but a week or so later reappeared at Inonda.

To the West of the mountain, where the casualties were far lighter, the people had a number of alternate courses of action. Data from Sivepe and the Sasembata area show no uniform reaction to the disaster even though village constables continued to exercise authority and village communities were not torn asunder. The Sivepe pattern was probably not untypical.

Here the village constable was not actually in the village at the moment of the eruption. He had gone to Kendata, a village two miles closer to the mountain, to see what was wrong with the mountain. A feast was in progress there, but only the two leaders of the feast were still at Kendata. The rest had become frightened at the smoke from the mountain and escaped to the bush. While the village constable, with four companions, was at Kendata, the mountain blew up. He returned at once to his own village, entering the wrong house because it was too dark to see. When the thunder and lightning wore off, he said, he saw white stuff (pumice) on the ground; the roosters started to sing; it was daybreak; the light started again. Many of the people had gone down; he took as many as possible with him to Awala. He arrived at Awala on Sunday night. (It was not Monday night, as a superficial reading of this paragraph might suggest because on that Sunday, the day broke twice, once in the morning, and once in the afternoon when visibility improved by a temporary lull in the emission of ash.)

But not everyone went to Awala; one or two, as at Kendata, had gone to the bush for safety; some old people simply refused to leave the village land and stopped at a hamlet called Kekita, 731 [775] near the boundary of Sivepe gardens. A crippled woman who could not run away described to me how, during the period of darkness, people who had come out of the mountain (i.e., dead people) tried to kill her but did not succeed. On Tuesday, Mr. Kaad went to survey this area, prior to setting up camp at Waseta. Apart from these old people and the crippled woman, he also found that some local people of the Sasembata area, who had fled on the Sunday, had already returned and were milling round their old homes. He told them all to go to the camp at Wairope.

The village constable's story also contained a reference to this meeting with Mr. Kaad, but introduced some of those slight twists or reinterpretation of the facts which are always characteristic of Orokaiva information. According to this story, the village constable met Mr. Kaad at Awala and said to him: "I want my people to go and see their dogs, pigs and chickens." Mr. Kaad then permitted three or four men from each village to go and look and come back again. When the people returned after their period in camp, the animals were still there. The evidence shows plainly that Mr. Kaad had to show a certain firmness to induce all these people to stay away from their villages. Even two days after the eruption they appear to have felt an inclination to return.

One interesting detail of the Sivepe experience was that the old people did not leave their village land at all on the day of the eruption. The Sangara people, who escaped from devastated villages, invariably told me that none of the older people were saved. They gave as the reason that these old people were unable to run fast enough. After obtaining this Sivepe evidence, I reinterviewed one or two of the Sangara people and it would seem that the old felt no real desire to escape from the mountain.

Kaad's arrival seems to have induced the stragglers to move on to Waseta and from there to Wairope. The government's air-dropped supply of emergency rations began to be delivered to Wairope. The centre of this camp was the government rest house, while the refugees began to build shanties for themselves. I collected few data about the Wairope camp because its duration was only a few days. During this time, government and mission personnel began to arrive from Port Moresby via Kokoda, while Mr. Searle continued to do the radio communication work. The camp had to be abandoned a fortnight later because of dangerous flooding of the Kumusi River on whose banks it was lodged. Taylor describes the phenomenon as follows:

> Mudflows, which were a characteristic aftermath of the explosive activity (of the volcano), were a natural consequence of increased run-off from the denuded slopes and of the great abundance of loose fragmental material. The run-off became great rumbling torrents of viscous mud

> and assorted debris which periodically descended the watercourses . . . An air inspection of the headwaters of the Kumusi River was made on 8 February, 1951, and the camp was seen to be in an extremely vulnerable position. (Taylor, 1958: 56-57)

The camp was evacuated and a few days later the resthouse was swept. An evacuation camp was established at Ilimo, a few miles West of the Kumusi near the road to Kokoda. This is the camp I shall describe in some detail in subsequent chapters. A photograph taken of Wairopi Camp by Dr. Taylor indicates that much building activity must have been going on during the short tenancy of that camp (Fig. 104). It also shows the torrential flood which necessitated departure.

The camp at Ilimo, to which the displaced communities were now removed, became an interesting experiment in social education and a rather influential one, due to the farsighted leadership of Mr. Kaad. It will be discussed in later sections. The maximum population of this camp was around 2,000 but before the end of February some 500 of these persons had already been permitted to return home. Reappraisal of the danger zone by the vulcanologist led to a redrawing of the boundary, such that areas West of the line drawn from Waseta to Wairopi were resettled; certain groups closely related to the population of the resettled area left the camp to stay with their relations, thus soon reducing camp population to 1,000. Meanwhile, rations were still distributed, as needed, to resettled groups. By the end of May, Ilimo camp was evacuated and resettlement entered a new and more permanent phase.

In this second phase, the boundaries of the danger area were redrawn again closer to the mountain. By this time--though the vulcanologist could not have been sure of this yet--the paroxysmal activity of the mountain had ceased. The areas resettled were all well outside the boundaries of full or partial devastation. The entire road from Popondetta to Ajeka was opened up for unrestricted settlement, and the road from Saiho to Kendata was opened up as far as Kongohambo (just past the Sasembata Mission Station). The areas between these road lines and the mountain were still declared unfit for habitation, though it was recognised that the resettled villagers would use these areas for gardening and hunting.

Before discussing this phase of resettlement further, I should refer to the other fugitives who made their way to Cape Killerton. This site had been chosen because it was clearly outside the danger zone and accessible to ship-borne supplies. On the other hand, there soon proved to be a shortage of drinking water. After a week Cape Killerton was abandoned as a resettlement camp and the population shifted by ship to Oro Bay. Two camps were established in this area: one at Eroro Bay where the Sangara survivors were settled and one at Oro Bay for people who had likewise fled in the direction of the Sangara Plantation but who were not members of the Sangara tribe. Most of these came from farther West and are sometimes referred to as the Isivita people. The Seva people who had gone to Cape Killerton in response to official instructions did not stay at either of these camps but made their way back to Inonda. This was consistent with a general pattern for groups who were offered hospitality by undisturbed villages to be allowed to leave the camps, while continuing to receive such subsistence rations as they needed.

In April, the Oro Bay Camp was emptied out by the device of transporting batches of 35 persons every other day to Cape Killerton, trucking them to Popondetta, flying them to Kokoda and making them walk the 20 miles to Ilimo. The Sangara people were shifted from Eroro Bay to Popondetta, and later settled in a new village site at the boundary of the Sangara tribal domain, at Irihambo. Thus, by the end of May, nobody remained in the evacuation camps, but all the victims had either gone back to their old villages, or been allotted to new resettlement villages, usually along the boundary of the restricted area near the mountain.

What were the attitudes of the Orokaiva towards the necessity of relocating? In order to answer this question we must, first of all, distinguish between the different types of situation baldly sketched in the preceding paragraphs. First, relocation occurred at different points in the history of the volcanic eruption: (a) immediately following the first disastrous explosions; (b) during the two months after the disaster, when paroxysmal activity continued (especially on the 6th and 18th of February and 5th of March) and secondary activity as well as mudflows continued to frighten the people; (c) at a time then the worst manifestations of the anger of Sumbiripa seemed to be past. During the first of these periods, the necessity of government measures do not appear to have been seriously questioned. It must be kept in mind that even in the Western area, where the disaster claimed few lives, the evacuation of the prohibited areas was achieved in a day or so after the government instruction went out, at a time when the government's enforcement powers were minimal.

Sivepe informants, describing the events to me, were very emphatic about the profound fear caused by the eruption. There was little incredulity when the officers of the government told the village constables that further eruptions could be expected. We may safely assume, from our general knowledge of the Orokaiva that if such incredulity had existed, people would not have left their district so easily and the reluctance of the older ones could not so easily have been overcome.

731 In the second phase, which is well documented through the reports of Keesing and Belshaw, attitudes were more complex. Our present concern is solely with the question whether the evacuees continued to regard absence from their home villages as necessary. Later, we shall refer to the gratitude that was shown to the Europeans for helping them in their hour of need, the extraordinary degree of cooperation and orderliness that prevailed, the sense of guilt that may have motivated the people in their compliant attitudes. We shall also refer to the anxieties the people underwent at this period: the usual anxieties of camp life, the uncertainties of the whereabouts of many kinsfolk who might or might not be alive, the fear that somehow they would be unable to [823] get their land and villages back. Informants stressed to me that the worst suffering of those days was simply home sickness, the sense of desolation at being separated from the places to which they so intimately belonged. Hence, in spite of the fear for the mountain, the Orokaiva very soon began to exert pressure upon the camp authorities to let them return home.

731 This pressure is especially evident from Belshaw's data: 657 people argued that the Europeans would not necessarily know what would be a safe area should the volcano blow up again--hence the maintaining of the camps could not logically be justified by their supposed safety (Belshaw, page 244). When the authorities inquired whether the people favoured consolidation of villages, many of the answers "were framed so as to assure the authorities that all would be well if they left the refugee camps immediately; everything was subordinated to this end." (Belshaw, page 246). Every excuse was given for making trips to the home area, and the authorities seem to have tried to restrict the number of persons joining such expeditions; also, they evidently forbade women to join their husbands, all no doubt to ensure that people would really return to camp. In spite of this battle of wits, the period was one of relatively excellent Orokaiva-White relations. The point is, however, that the evacuation camps were soon regarded as increasingly unpleasant and unnecessary.

731 Attitudes also varied according to the distance between the camps and the home villages. At Cape Killerton and Oro Bay, [823] the Orokaiva were deeply disturbed at being in foreign territory, far from their homes, and close to the sea which they particularly feared. I was told this by all Sangara informants and it is also [753] stated in Keesing's report. My informants also ascribed sickness of many people, especially old people, to homesickness. This does not conform to the medical record, as presented to me verbally by Dr. Gunther who was personally in charge of medical care in the [164] camps. Dr. Gunther said there was not much sickness; there were cases of spinal meningitis and paratyphoid, which he ascribed to close living together in the camps and which were "not very much [753] more" frequent than in any camp. It is significant, however,

731 that the Orokaiva explained these cases not by sorcery (as they
[753] regularly do) but by homesickness.

The administration, in any case, seemed to be concerned
about the malaise of refugees kept in coastal camps. All Australian
informants to whom I spoke agreed that it was this malaise (and
pressure by the Orokaiva) which led to a shift of the Eroro Bay
refugees to Popondetta at the earliest opportunity (in April).
A few weeks later they were allowed to go to Irihambo, a new
settlement at the boundary of Sangara territory. Thus, one of
the variables of special significance in the comparative study of
displaced communities--removal from the home territory--was of
minor significance in the case of the Orokaiva. Almost as soon
as the immediate danger of the eruption was passed, people pressed
for a return to their home territory and this pressure was not
[182] resisted for long. If the eruption had a lasting effect on
Orokaiva norms of behaviour and belief, this was not due to
changes of location, but rather to the experience of the disaster
and the unexpected scope of Australian assistance, and to new
residential patterns introduced when the displaced communities
were resettled.

657 The government had long followed a policy of consolidating
hamlets and villages, not only in Orokaiva territory but in all
361 parts of Papua. This policy existed long before the government
began to pursue actively its present objectives of social and
economic development. When I asked senior officials of the
administration for the reasons behind this policy, I was always
told that village consolidation made patrolling and the maintenance
of law and order easier and that regulations concerning hygiene,
housing standards, road building were more easily enforced. It
was the practice, well before the eruption, to keep lists showing
the names of all inhabitants of the Orokaiva district. These
lists were subdivided into village lists; a patrol officer visited
(and still visits) each listed village once a year and all the
persons listed as living in that village must then report themselves
present. Deaths and births and marriages are recorded. It seems
to have been the practice for patrol officers to instruct groups
living in small hamlets to join other village units. Thus, in
Sivepe many amalgamations of population groups occurred over the
years and the people claimed that all these amalgamations were
made in response to government instructions. Even if this is not
always strictly true, there is nothing novel in the pressure put
upon Orokaiva after the eruption to go and live in consolidated
villages.

[731] On the other hand, there were several factors favouring such
a development. The first of these was the continued restriction
placed upon residence near the mountain. Even after May, 1951,
there were several thousand Orokaiva who could not return to their
old village sites. The villages where they were settled were

657 either new or of far greater size than before the eruption. Some
361 of these still exist today and still stand out by their unusual
size. When one finds a village with a population of over 200,
731 this is almost invariably (I know of no exceptions myself) a village set up near Mount Lamington after the eruption--either immediately after the eruption, such as the present Mumuni, Awala, Soroputa, Agenahambo, Koipa, or set up a few years later, when most of the restricted area near the volcano was made available for settlement, such as Hohorita, Kiorota, Bagavaturu, Kendata (see Table 2). These more recent villages are made up of people who, immediately after the closing down of the evacuation camps, were placed in resettlement villages such as Irihambo, Koipa, Agenahambo, Kongohambo and then resettled again closer to the mountain when this became possible. In all these cases, the unusually large size of the villages is due purely to government action.

The case of Sivepe, though atypical, may illustrate this. Before release from the Ilimo camp, it was arranged that the Sivepe people would be settled at Awala, which was on the main road and at a respectable distance from the mountain. The Awala people agreed to this; the Sivepe people agreed. Thus they went to Awala and the government intended that they should stay there in a large consolidated village. One of the two main clans now making up Sivepe expressed a strong desire to return home and, as Sivepe was outside the restricted area after May, 1951 (the boundary being at Kongohambo), no objection was made but the consolidation of Sivepe with another village was insisted upon. This did not bring Sivepe anywhere near the size of one of the major resettlement villages, but some measure of consolidation was achieved nonetheless. Here we see the operation of several administrative principles. First, we see the pressure towards large villages; Awala has 250 inhabitants even now; if Sivepe and other villages in the vicinity had been added to it, as had been intended, Awala would now have something like 600 inhabitants. On the other hand, Mr. Kaad, who administered this resettlement, evidently did not believe he should exert very strong pressure. He therefore allowed the settlement of Sivepe and several other villages between Sivepe and Awala. The one Sivepe clan which had stayed behind in Awala in 1951, returned to Sivepe a year later.

We may therefore distinguish two types of post-eruption settlements: (1) very large villages created with government encouragement; (2) medium-sized villages (generally still larger than pre-eruption villages) created with government connivance. What were Orokaiva attitudes to the necessity of this kind of relocation? I find this question hard to answer because the term "necessity" (employed in the questionnaire to which this report is the answer) does not fit what I understand to be Orokaiva logic. Settlements such as Irihambo, Awala, Kongohambo were certainly regarded as "necessary" for the mere reason that the government

657 (or in the case of Irihambo, the Bishop) had decreed them. Had
these people been Westerners rather than Orokaiva, they might have
361 asked themselves the question whether the decision of the government
731 to prohibit the Kongohambo people, for instance, to go and live
further East in their old villages was a reasonable one. However,
there is nothing self-evident in the asking of such a question.
Criticism of an administrative decision is, i.e., a calculation of
probabilities, fiduciary responsibilities and expediencies. For
the Orokaiva, the problem was not whether the government decision
was a "necessary" one, but rather: what was the most advantageous
action they could themselves take in the circumstances. The
advantages of going back to their old village sites were obvious.
[784] But these were clearly outweighed by two grave disadvantages:
first, the probability of punishment by Australian authorities and
secondly, the chance (to which I shall refer in detail later)
that the whole eruption might have been a punishment by the Christian
God for their earlier disobedience to government and Church demands,
and that further disobedience might elicit a further eruption. It
seemed foolhardy indeed to challenge both the government and the
mountain at the same time. In this sense, we may confidently say
that the Orokaiva felt the necessity of relocation.

CHAPTER 2: Physical Environments

Section 1: General Remarks

731 I have shown in the last chapter that the surviving victims of the Mount Lamington disaster were resettled on land they owned (or close to land they owned) prior to the eruption. Thus, resettlement did not lead to a lasting change in physical environment. Certainly, upon their return, the people found their houses beyond repair due to damage done by stones and other volcanic materials; the village grounds were gutted with holes and some trees destroyed. It did not take them longer than a year, however, to build a new village. After the first year, they no longer needed government supplies for subsistence; they were able to plant out their own taro seedlings and re-establish their traditional crops. [121] Nonetheless, certain minor changes in topography and resources occurred at Sivepe, and these must be briefly mentioned.

121 It will also be necessary to refer to differences in physical environment as between the community chosen for special study (Sivepe) and the control community (Inonda). It would undoubtedly have improved my research design if the physical environment in the two villages could have been more or less identical. I should therefore explain why this flaw could not be avoided. Ecologically, certain definite differences exist between land close to the volcano and land on the lowlying flats to the North and East: differences in soil composition, rainfall and population density, to mention only a few basic ones. Though these differences are overshadowed by near-identity in culture and language, they will inevitably intrude in a study as detailed as the present one. It would have been ideal if a control community could have been found which resembled Sivepe in ecology but which had not experienced resettlement. Such villages, however, did not exist, as all the Orokaiva on the slopes of the volcano were evacuated and underwent, in some form or other, the same kind of experiences as Sivepe. Hence, in the present chapter, a comparative study of the ecologies of Sivepe and Inonda must be undertaken.

There is a second question to which brief reference must be made here, namely the effect on physical environments of changes in land utilisation. Throughout this report we shall be comparing conditions at the time of the eruption and the present. In the intervening period, cash cropping has become established among the Orokaiva on a significant scale and other significant cultural changes have taken place. We should therefore inquire what effect

133 Sivepe lies on an altitude of 1,300 feet, seven miles from Mount Lamington. Although the mountain rises to a height of 5,634
[361] feet, most present settlements are on the lower slopes, rarely very much higher than Sivepe. A wide range of annual and perennial
[241] crops, including taro, on which the Orokaiva depend, do not grow well at altitudes much above 1,500 feet. Thus, the eruption has
●[731] had no appreciable permanent influence on the location of village sites. The restricted area is at present a circle of two miles'
[361] radius from the crater of Mount Lamington; there are not now, nor were there before the eruption, permanent settlements closer than four miles from the crater.

The Sivepe terrain (if I may borrow the terminology of the CSIRO report) is characterized by a gentle radial slope on wide planar ridges between the larger steep-sided streams flowing from Mount Lamington into the Kumusi River. Numerous smaller creeks, together with these streams, form an effective fine-textured radial drainage system. Drainage is facilitated, moreover, by the extreme porosity of the soil.

Sivepe (see Map III)[A] is on a soil association of the Awala
134 land system which has an 8 to 12 inch very dark brown topsoil. Chemical tests suggest that these loams are fertile, rich in nitrogen and phosphorus. The fine-textured subsoils range from 10
[823] to 22 inches in depth. Rimoldi points out that this dominant soil type, which the Orokaiva call mume (a word whose principal meaning is night, darkness), is only one of five found in the district and distinguished by Orokaiva by colour, texture and moisture. The others are hohori (red), which is popular for cultivation if it is not sandy; gindiri (stony, with high sand fraction); pugu (clay) and pegara (swamp). Mume is the most widely used soil for gardens.

In contrast, Inonda (see Map IV)[B] is no more than 200 to
133 300 feet above sea level. It lies partly (to draw on the CSIRO report again) on the flood plains of the Girua and Sambogo rivers and partly in the moderately sloping foothills of the northern side of the extinct strato-volcanic Hydrographers Range. The Sambogo and Girua Rivers flow in a northerly direction draining from the Hydrographers Range and Mount Lamington respectively. They are swiftly flowing, rocky-bedded rivers which, together with their numerous tributaries, give the area a moderate to good drainage system. To the east the drainage system in the vicinity of the Embi Lakes has been blocked by recent volcanic activity and drainage is much poorer. A vast coastal plain between 20 and 30 miles wide stretches north-westwards from the Hydrographers for over 60 miles. Inonda lies at the southern end of this plain, about 15 miles inland from the coast.

Crocombe and Hogbin classify Inonda soils on the basis of
134 five soil associations listed in the CSIRO survey: (i) the Popondetta Association, with black to very dark topsoil underlain by yellowish-grey volcanic sand subsoil. The topsoil looks like

A [See Cat. 116, p. End Map 3--Analyst]
B [See Cat. 116, p. End Map 4--Analyst]

361 cultivating gardens that are more than a mile or so away from his
village.

When Rimoldi made his careful notes of cultivated gardens,
241 these seemed to be predominantly in the Northeastern part of the
311 village domain. These gardens are ordinarily fallowed for eight
years or so and then cultivated for one season. The gardens in the
Southwestern part of the village domain were undoubtedly being
cultivated shortly after the eruption; they are again being cultivated
today. It therefore seems to make sense that after the eruption
people were living in Pamba, in that part of the domain and that
the new Sivepe is again in that area.

731 Inonda experienced three shifts since the eruption: first
to the vicinity of the airstrip (1951), then to the village
361 described by Crocombe and Hogbin (1955), then to the village where
I myself stayed (established 1964; see Map VII).A The pre-eruption
village was just behind this new village, again suggesting an
orderly exploitation of garden land. In 1964, Inonda returned to
garden land that had been fallowed since the eruption. People told
me that before shifting to the present site, they had to walk much
too far to their gardens.

361 While the layout of Pamba was traditional--with the houses
close together and little space between the rows--both post-eruption
657 settlements of Sivepe and all the four post-war Inonda settlements
followed what one may call the Australian standard plan: two fairly
regular parallel rows of equidistant houses facing each other, with
a few houses joining the two rows, thus forming a quadrangle, and
a wide field in the middle, used for playing soccer and basketball
and as a separation of the two "halves" of the village which tend
[364] to belong to different clans. A modern village will contain, in
addition to residences, privies for each family, while some have
[345] built a hall for the women's club, sponsored by the government.
Inonda built a very stylish one, using as a floor a slab of concrete
[575] which the Americans laid down during the war. Sivepe got no further
than the foundations, after which a quarrel blocked progress. In
addition all villages contain a number of arara or jataka--covered
platforms where men sit and receive visitors. Many villages, including
[591] Sivepe, still have a bachelor's house. Typically, each house is
occupied by a two-generation family comprising no more than one
married couple. A stream is always close to the village.

The change in village layout as between Pamba and the two
later Sivepe villages must be discussed in a little more detail as
the eruption was clearly influential here. The Australian government
has long been concerned about village layouts; this interest went
beyond consolidations and included the improvement of housing
657 standards, village sanitation and roads. We find Wilfred Beaver,
in the Annual Report for 1914-15, already claiming that he had
364 "insisted on these three essentials in village life," in the

A [See Cat. 116, p. End Map 7--Analyst]

657 three sides of it. (Administration) attempts to introduce such
361 villages in the Higaturu sub-district had largely failed and the
standard of housing was much lower. Further, the people of this
area tended to live in small clan-hamlets and resisted propaganda
[731] for them to come together into larger village groups. After the
eruption, however, the general desire for new things, the sense of
[784] guilt at having resisted such innovations before, and a feeling of
insecurity combined to make most of the people reconsider their
earlier decisions. Although the move was not quite universal, by
far the greater proportion of people decided to rebuild their homes
in large village units situated close to existing or proposed jeep
roads, and on administrative advice decided to follow the Kokoda
village plan with substantially improved housing" (1951: 245).

At the time of Belshaw's research the only resettled areas were those West of the Waseta-Sairope line, and the villages Belshaw visited appear to have been in the Sairope area. As it turned out, the Kokoda village plan was in fact adopted in a great many villages in the Higaturu sub-district, though by no means as an immediate result of any decisions that may have been taken at Ilimo. In the Sivepe area, it seems clear that the people's first plan was to return to Pamba and only when Pamba became uncomfortable, partly through quarrels, partly through damage done by the eruption and partly through administration pressure, did they decide to build a new village in the new style. Within a radius of three miles from Sivepe, there are still a considerable number of old-style villages even today: Hamburata, Garombi, Torogota, to mention only three larger ones. Others, such as Duve and Binduta, were beginning to adopt the new style only around the time of my visit in 1966. In 1951, only those villages in which the government took a strong direct interest, such as Awala, Kongohambo, and the villages visited by Belshaw (but I could not enumerate them all) adopted the Kokoda style.

There is also a minor incompleteness in Belshaw's data when he refers to the neatly clipped grass and the rows of houses as being innovations due to the Kokoda influence. The neatly clipped grass was in evidence in 1906 and the regular rows of houses were reported by F. E. Williams (1930: 68). This was, admittedly, reported as late as the 1920's but the layout is consistent with the less explicit descriptions of Orokaiva villages given by Walker (1901) and by Monckton in his descriptions of his battles with the Dobudura and Sangara. The novelty of the Kokoda plan lies rather in the wide central field, the house design and use of materials, and the sanitation.

Undoubtedly, credit for the introduction of the plan must be given to the Ilimo experience but the spreading of the plan over the majority of Orokaiva villages must rather be ascribed to the growing influence of the Local Government Council in the 1960's.

657 Sivepe, as it happens, was one of the villages in which the plan
361 was pioneered.

Finally, I should refer briefly to communications. One
[491] general effect of the eruption was a shifting of villages to the side of jeep roads, as Belshaw also mentioned. The administration favoured this trend which greatly facilitated patrolling the villages. The Orokaiva always seem to have a liking for the Australian-built roads; Monckton already refers to their fondness for travelling over it and explains it gave a sense of security against possible attack by hostile tribes. Though this can hardly be the reason today, the liking remains. Over the last few years, the roads have begun to yield economic and practical advantage: trucks collecting coffee visit the villages and occasionally people can pick up rides from passing vehicles. Speed of travel is also improved for pedestrians. I shall discuss ideological aspects of this liking later.

872 The accessibility of facilities has also improved since
797 the eruption. Sivepe children now all go to the school at the Sasembata mission station which teaches up to Standard 6. Inonda children were first introduced to schooling after the eruption when the Seva people joined them accompanied by a mission teacher.
[368] After this mission teacher retired, Inonda was dependent on a school at Hohota. Only a few children went to this school because it was six miles away, across a deep river, but today, after the building of a new road and a bridge, and the latest shift of Inonda village, this distance has been reduced to about three miles and school attendance is regular.

The eruption changes the centre of gravity of the district.
368 The pre-eruption settlements of Higaturu and Sangara contained all
731 governmental and mission facilities, including the hospital and the schooling past Standard 2. Sivepe's link with these facilities was by a bush track running through Isivita. Today, Popondetta is the centre, but the hospital is at Saiho, the senior college near Agenahambo, the Local Government Council in the new Higaturu, near
[491] Agenahambo. Thus the main road to Popondetta, now greatly improved, has become the main artery. Nonetheless, for those who have to walk, the bush tracks from Sivepe to Saiho, Awala and Agenahambo are still important thoroughfares used by many dozen people every day.

Section 4: Resources

423 I have already referred to the main resource, owned by the
311 Orokaiva, which is their land. The Sivepe people own only about 480 acres, almost entirely gardening land, and very little of their land is in virgin bush. This small area is useful for certain

CHAPTER III: Social Environment

Section 1: Opportunity for Contact with Outsiders

The experience of the eruption led to outside contacts that
731 would not otherwise have occurred. These outside contacts obviously
177 were among the basic causes of social changes arising out of the
eruption. In the present study, it is by no means easy to
distinguish between outside contacts which arose out of the eruption,
directly or indirectly, and those which existed prior to the
eruption or were the result of social changes unconnected with the
121 eruption. But before we can address ourselves to this substantive
question, it must first be clear what we shall mean by "outside
contacts." The term "outsiders" is used repeatedly in Professor
Barnett's specification of the variables to be included in the
comparative study. What, exactly, are outsiders? In order to
answer this question, I have to offer a few generalizations about
Orokaiva social structure for which the documentation cannot be
included here. A full treatment is given in my doctoral dissertation.

We may view the Orokaiva picture of his social universe as
571 a set of widening concentric circles: family, local clan group,
village, the clan within limits of kinship recognition, the
consanguineal group within limits of kinship recognition, a group
of contiguous friendly villages, the wider set of persons with
which an individual entertains institutionalized friendship links,
while beyond these limits we may discern even wider circles which
become evident in special circumstances. This is an entirely
619 ego-centred model. I saw no evidence of groups of villages which
displayed a true corporate unity. Thus village A would have close
628 relations with villages B and C, but village B would not have
similarly close bonds with A and C. More likely, villages B and
C would treat each other with marked reserve and B would have close
relations with A and D; C would have close relations with A and E.

571 Patrilineages were very shallow in genealogical depth.
Though the kinship structure would need to be classified as
613 predominantly patrilineal, I noted a strong consanguineal emphasis.
Bonds based on real or fictional siblingship, affinity, matrilineality,
591 institutionalized friendship and--above all--residence and an
uninterrupted flow of reciprocal transactions were stronger than
all but the closest patrilineal bonds. Though residence was
predominantly patri-virilocal, there were many non-agnates in
local groups sharing the same clan name; inheritance was not
necessarily in the patriline.

628 Hohorita), there should be a great many linkages between individuals,
and there should be no major dissension, between the villages, for
the time being.

I have already mentioned that each village has its own range of "closely allied" settlements: the Sivepe people would always mention Garombi and Binduta, while some families would also mention Sasembata, Kongohambo and Torogota; nobody would ever mention Isoge. But in Garombi and Binduta, Isoge was classified as a "closely allied" village. It was the same in Inonda, which mentioned Ajoro and Musou, while Ajoro mentioned Inonda and Hohota (see Map VIII).A

It is not easy to find a single criterion by which a village may be classified as "closely allied." One approach might be to count the number of informants who have close consanguines and/or affines in the village under consideration. On that basis (see Table 9)B the ten "closest" villages to Sivepe would be: Sasembata, Garombi, Awala, Hamburata, Korogombata (i.e., Binduta), Hojane, Binduta, Isivita, Togahou and Soroputa. Now these are not anything like the ten villages geographically closest to Sivepe. Togahou and Isivita are both situated outside the Waseta tribal district as defined by Williams. The list does not include Kongohambo which is less than one mile from the present site of Sivepe village.

On the other hand, if frequency of social contacts be a measure, the number of contacts with another village is determined to a large extent by geographical distance. Though only three Sivepe informants had first or second degree consanguines in Kongohambo, and only one Sivepe girl, to my knowledge, was married in Kongohambo, there were more distant links which were assiduously maintained and the closer links led to far more visits than, for instance, the links with Togahou, which was 15 miles away.

If we compare the contacts between "closely allied" villages
628 as between 1951 and 1967, the most striking difference is the
731 effect of newly formed organizational units in which certain
villages are administratively grouped together. Before the eruption,
there was a great deal of contact between persons in these villages,
through individual kinship and friendship links, but collective
contacts remained confined to feasts, deaths and the settlement of
[582] quarrels. Individual contacts, presumably, were as frequent then as
they are now, as it is characteristic of the "closely allied"
villages that marriages were regularly contracted between them,
so that most people would have some affinal or maternal kin in the
allied village.

After the eruption, however, several modern organizations of
628 a range wider than the village were set up under Australian influence.
631 The building and maintaining of the Sasembata mission station, and
731 the holding of regular Sunday services there, led to regular
institutionalized cooperation between the villages. The men built
[794] the school and the hospital together, the children went to school
together, the people worshipped and attended church festivals

[797] A [See Cat. 116, p. End Map 7--Analyst]
B [See Cat. 116, p. 214--Analyst]

628 together, the church council, with representatives from all the
villages, deliberated together. This cooperation was a gradual
631 development occurring over the years under consideration; it will
731 be traced in detail in a later chapter. The setting up of wards
under the Higaturu Local Government Council led to further occasions
[794] for formal cooperation between villages belonging to the same ward.
It was characteristic of both the church and the government council
[797] organizations that they divided the Sasembata district into areas
with definite boundaries, each area comprising several villages.
The church recognized two such divisions, the government council
three. I have already emphasized that the idea of such boundaries
[192] was a novel one (see Map IX).[A] It is beginning to have two kinds
of effect: first, the strengthening of bonds between villages
within the same ward or the same section of a mission parish
(e.g., bonds between Sivepe and Isoga, which up to now have not
been closely allied) and secondly, the loosening of bonds between
villages divided by the boundaries which are now being defined
(e.g., bonds between Sivepe and Kongohambo, hitherto closely allied,
but now separated by administrative procedures).

628 These generalizations will be documented below; my task at
present is to consider contacts between Sivepe and closely allied
423 villages arising out of the eruption and relocation. Here inter-
village cooperation was a far less significant factor than inter-
578 village competition, especially for use of the land. One of the
deep anxieties of the Orokaiva in the refugee camps and later in
resettlement villages such as Irihambo, Awala, Kongohambo was that
if the people did not return to their land, some others might
decide to occupy it and it might be impossible to dislodge them.
This was a very real danger because neither in 1951 nor at present
is there in existence a land register from which the ownership of
individual or village parcels may be unequivocally established.
The Orokaiva plant boundary trees round their blocks of land and
[685] there is a taboo on interfering with these. This is not merely a
supernatural taboo; interference with a boundary justifies a
killing. It is far less clear, however, just what rights a person
holds in a particular parcel. As this is a crucial issue in the
whole history of Orokaiva resettlement, I should explain this in
some detail.

423 Crocombe and Hogbin provide an excellent example of the
ambiguity of Orokaiva land rights. After wars with the Sangara,
613 both the Andiriha and the Tandai'undi clans were driven from their
villages and settled down together in a village named Sambogo.
[621] Later, some of the Andiriha set up Inonda on land to which the
Tandai'undi had superior rights. At present, this land is used by
Andiriha, and upon inquiring into the legal basis of tenure I was
given the following explanation. Two daughters of the Tandai'undi
owner's lineage married into Andiriha and were given the Inonda
[428] land to "look after." As is usual among Orokaiva, this right to

[A] [See Cat. 116, p. End Map 8--Analyst]

423 "look after" the land was passed on to the daughters' sons, who
613 now hold it. This arrangement is something like a perpetual,
inheritable usehold, but should the lineage of the useholders die
428 out, the land would revert to the Tandai'undi, as Crocombe and
Hogbin point out. Furthermore, should the present occupants decide
to settle elsewhere, the land would again revert to Tandai'undi.
They have residuary rights and, as Crocombe and Hogbin again point
out, they are not alone to have them, for another neighboring
group (the Urio people) likewise have residuary rights. In these
circumstances it is understandable that, for instance, the people
of Inonda would be most concerned if they were forced to settle,
even temporarily, away from their own lands.

We find the same pattern in Sivepe. First of all, the blocks
of land over which individuals had perpetual useholds contained,
in almost every case, some blocks which had not been inherited
through the patriline. Secondly, even those blocks which had been
so inherited were often held in common with others belonging to
a different village and nowadays counting themselves as belonging
to a different clan, even though agnatic links could sometimes be
731 traced. On the day of the eruption, or within the four days
following it, both Sivepe and the closely allied villages were
361 evacuated, and they were together at Ilimo. When the camp was
423 disbanded, a large resettlement village was established in Kongohambo,
on land belonging, at least in part, to Sivepe villagers of the
Seho clan. Almost 1,000 people were settled there so that garden
land in the vicinity of Kongohambo became very highly prized.
Meanwhile, the government desired to resettle the Sivepe people in
Awala. It seems that the Sivepe people did stay in Awala for
three months, after which the Jegase and Timamu clan groups
received permission to return to their land in Sivepe. The third
Sivepe clan group, Seho, stayed on in Awala, but planted gardens
in the Sivepe area.

At this point, the Seho people evidently felt reasonably
secure; a year later, however, they joined the other clans in
Pamba and together built the new village of Sivepe. When I asked
Seho informants why they had returned they told me it was because
of fear of losing their land. Now this danger did not come from
the other Sivepe clans, who were mostly affines of the Seho people
and whose return to their home village evidently caused no great
concern to the Seho people in 1951. The danger came from Kongohambo
which adjoined the Seho lands. Some Kongohambo people had residual
rights over some of this land; if the Seho people did not return,
they would undoubtedly have had some trouble in getting it back.

The government, though aware of this possibility, had
[657] imagined that Sivepe people would not be too concerned, seeing
that they had been offered garden land at Awala. Government reasoning
can be traced from the discussions by Belshaw and Keesing and also
from a long memorandum by Plant (see bibliography), a public servant

731 with some knowledge of anthropology. All these authors, following
F. E. Williams, had the impression that Orokaiva clans are corporate
361 groups and that the local clan groups are segments of these. Thus,
Plant and the others imagined that the Jegase of Sui (near Awala)
423 would share their land without reservations with the Jegase of
657 Sivepe, that the Seho of Awala would share their land with the Seho
of Sivepe, and so on. The Orokaiva, however, knew that their
position in the resettlement villages would be weak indeed unless
they retained their own village holdings. This weakness will
become more apparent from my discussion of the resettlement village
of Mumuni in a later chapter.

628 The closely allied villages, therefore, are not only a source
of cooperation but also competition. Seho returned and had no
423 trouble reasserting their rights; they accepted with good grace
that their neighbors had built their village partly on Seho land
and that the mission station had partly been built on it, but they
jealously guarded the rest of their holdings. Let us now consider
the specific variables listed in the previous section.

628 Transactions between members of closely allied villages
occur in kinship and friendship roles; decisions affecting the
villages as corporate groups are taken at a meeting where all adult
men of the affected villages are present, and have a right to
speak. Visits between the villages by individuals occurred almost
every day; formal meetings involving Sivepe and one of the closely
allied villages occurred, for one reason or another, about once a
month. The occasion might be a death, a bride price, a minor
dispute, some government or council or church project. Contacts
were equally close between young and old, males and females.
Meetings occurred in the villages, or, more casually, outside
[578] them. There is much affection between people of closely allied
villages and one finds that disputes between them, though giving
rise to a great deal of heated oratory, are not rashly allowed to
get out of hand. The disputes I witnessed were all resolved amicably
and serious breaches carefully avoided. On the other hand, neighboring
[574] villages were always treated with much reserve. Before the eruption,
they never ate together except under the formal conditions of a
feast; even today, when a feast is held at the mission station for
all the villages in the parish, each village sits apart in a separate
group. When people from different villages eat together in a formal
feast, each village house has its own little group of guests, who
are either kinsmen or in a partnership relation. Transactions between
such persons nonetheless have a greater fiduciary element than
[754] transactions with other outsiders. Sorcery between closely allied
villages occurs, but only, so I was told, by the employment of a
professional sorcerer from a more distant village. No Garombi man
would act as sorcerer, so I understand, to kill a Sivepe man, but
men from Isoge or Kendata could be found for such a service.

628 position in the structure: they held, one might say, a dual
citizenship: effective citizenship in Sivepe where they lived,
and residual citizenship in Soroputa and Agenahambo (in the case of
one of them). Other Sivepe men held a similar kind of residual
citizenship in various Isivita villages, e.g., Kiorota, Begevoturu
and others again in Awala, Koropata, etc. The marks of this
residual citizenship were in each case: residual land rights
(e.g., hunting and fishing rights, rights to the produce of certain
trees), regular visiting, clearly traceable kinship links in the
[621] patri- or matriline. In inter-village contacts we may therefore
distinguish two types of role: the leader and the ambassador.
The leader does not directly deal with the leader of another
village, except if he happens to have residual citizenship there.
Trust can be established only if the approach is made by a residual
citizen who, by implication, is offering tangible security (his
residual citizenship rights) for the truthfulness of his words
and the honesty of his intentions.

It is in the relations with places such as Soroputa and
Agenahambo that we can still see the traditional pattern of inter-
village relations; within the Sasembata district itself, this pattern
has become slightly obscured by the development of new forms of
organisation under the influence of mission and government.
Nonetheless, even in the type of relations I have just discussed,
the pax Australiana has had its influence. If we survey the short
list of inter-village linkages between Sivepe and the more distant
parts of the Waseta "tribe" (and "more distant" effectively means
no more here than over four miles away), we notice that in pre-
contact times, wars with Waseta and Isivita were reported. The
feast offered to Togahou by Sivepe in 1967 was an unprecendented
event; the persons who mediated between the two villages to arrange
the feast were descendants of war captives.

628 From the viewpoint of the present study, it is interesting
to inquire whether the eruption has had any effects that drew the
619 Waseta "tribe" more closely together. This question is complicated
[731] by the conflicting descriptions we have of Orokaiva "tribes." A
full discussion of the nature of Orokaiva "tribes" would be out
of place here. Rimoldi (1966: 29-37) brings forward some strong
arguments why a division into tribes, as attempted by Chinnery and
Beaver, and Williams, is a hazardous enterprise. I have already
stated my own opinion that the Orokaiva view of his social world
is a set of concentric circles of increasing radius. Thus, I would
agree with Williams that there is an area, comprising several
dozen villages, within which an Orokaiva practises what Williams
calls "intra-group morality" (1930: 311). Normally these several
dozen villages are those immediately surrounding the village of
[582] residence. Within this area, marriages are contracted, cannibalistic
[721] raids do not occur and fights tend to involve comparatively little
bloodshed. The circle of "intra-group morality" varies for every
[266]

628 village. Williams, in marking out his "Waseta tribe," with Waseta
619 at the centre, excluded the Soroputa people from this "tribe"
(vide Map X)[A] but "intra-group morality" definitely prevailed
[266] between Soroputa and neighboring Sivepe. There never were
cannibalistic raids between these two villages, which included
each other in their "intra-group morality" circle.

It so happens that the people who were brought together
at Ilimo consisted preponderantly of members of what Williams
called the "Waseta tribe." The only bonds existing between the
members of this tribe were the individual kinship and friendship
networks and the solidarity of "intra-group morality" circles.
The camp was built as a set of separate villages, each under its
own village constable, eating and living separately, though more
[572] closely together than formerly. I obtained from a number of Sivepe
men a list of "friends" and inquired into the occasion when the
[582] friendship started; in no case did it start at Ilimo. On the other
hand, the camps led to a number of marriages between people from
different villages. This tendency was especially pronounced at
Hohorita, which is understandable as so many refugees had lost
their families during the eruption. In Sivepe I found one case
of a man who married an Agenahambo woman whom he met at Ilimo.

731 If "tribal" solidarity was dubious before the Ilimo camp
period, the atmosphere of an evacuation camp was certainly not
628 a suitable one for developing it. Both Belshaw and Keesing
619 emphasize the anxiety of the inhabitants, their strong desire to
return to their home villages, while I have also emphasized their
distrust of "others" who might wish to occupy their land; these
"others" would inevitably be other members of the Waseta "tribe,"
although perhaps the Europeans were likewise suspected of predatory
aims. (For such suspicion, I do not, however, have evidence.)

A sense of district solidarity did tend to grow up after
the eruption, but it can be traced to formal organisations in
which Orokaiva occupied roles which brought them into contact with
people from other villages. Sometimes these were élite roles,
which will be considered below; sometimes they were roles open
to anyone, such as that of worker in paid employment, patient in
a hospital, pupil in a secondary or advanced primary school,
participant in a large-scale public celebration, such as were held
in Popondetta and Saiho.

657 The government is actively attempting to create among the
Orokaiva larger solidary units than existed in the past. We may
571 thus explain the various attempts that are made to bring Orokaiva
people together in the local government council, at numerous
sports meetings and celebrations such as at Christmas and New
Year, and by any other expedient means. Without the popular
acceptance of the local government council the establishing of a
land boundary between Sivepe and Soroputa or Agenahambo, to stay
with my previous example, would have been hard to imagine. Yet it

[A] [See Cat. 116, p. End Map 9--Analyst]

657 was accomplished without any European power bearer making his
appearance and any sense of compulsion being created--the people
571 clearly considered the boundaries advocated by the government to be
in the popular interest. Yet the bonds of solidarity this being
formed do not strengthen the unity of the so-called Waseta tribe
but the unity of the Higaturu council area as a whole.

628 In this section I have said little about Inonda, because
I did not have time to clarify what "tribe" Inonda really belongs.
619 Williams' tribal map shows Inonda as Sauaha; Crocombe and Hogbin
[114] describe Sauaha, quite correctly, as a clan resident near the
settlement of Dobuduru (where the people speak a different dialect,
presumably that which Williams called Dirou). Clearly, the task
of establishing "tribal" units in this district would need to be
done again, if it is worth doing at all, which I doubt, for reasons
already given.

Section 5: Contacts With Other Orokaiva

628 Generally, contacts outside the "Waseta tribe" are sparse.
During the year, only one visit was made to Sivepe, in a kinship
[582] context, by persons from another district. This was a group from
Kokoda, where a Sivepe man married 40 or more years ago, and the
[574] visit was from that man's children. Several Sivepe persons quoted
as an ancestor a woman from Ajoro, a village close to Inonda. It
turned out that all these linkages were due to one single event,
namely the capture by the Isivita people of three Ajoro women
during a raid. Two of these found their way to Garombi where they
[424] married; the third woman's son came to live in Sivepe. Descendants
of the Sivepe man continue to exercise each year their hunting
rights at Ajoro. I could not find other references to ancestors
[572] beyond the "Waseta tribe" apart from these. Some people mentioned
a friend, but rarely more than one, who came from another "tribal"
district. Often these friends were found during employment, or at
the mission school, or they were persons with special roles in
mission or government, who had come to the Sasembata district in
the course of their jobs. When women had such friends, it was more
often due to a kinship link. An interesting example of the extending
[526] of such links under modern conditions occurred when a man from
Sasembata village, employed in Kokoda, invited a number of fellow
workers to Sasembata for a football game. These men were likewise
in Kokoda for employment and came from the Aiga district.

When the members of the "Waseta tribe" were accommodated at
[657] Ilimo, they were not only the guests of the government which
[731] supplied food and other comforts, but also of the people of Ilimo
[574] village who had agreed to the camp being established. From the
little I could find out about relationships between hosts and

628 guests, it appears that they were friendly but rather formal. As
574 will be shown later, all arrangements in connection with Ilimo
camp were made between the government and the Ilimo people; the
731 Orokaiva had no forms of organisation, in 1951, through which the
refugees could have negotiated directly with Ilimo. The hosts
[657] generously supplied food, grew extra food in special plots,
provided abundant building material from their land, and a site
for the camp and helped with the preparation of the camp while
the evacuees still lived at Wairope, in return for which the
government made various gifts which Ilimo evidently regarded as
adequate payment. At no point, during the existence of the camp,
did the refugees develop an organisation which dealt directly with
the Ilimo people. Thus, the only contact between hosts and guests
was on a social level.

The camp was built at some little distance from the village. Refugees who had friends and relations in Ilimo used to go over to the village and visit them. There was for instance, at the time of the eruption, one Sivepe man resident at Ilimo; thus some Sivepe people paid visits to the village. There was an Easter celebration at the camp to which the village people came. When the camp broke up, the government gave a feast to the Ilimo people, on behalf of the evacuees, in the usual Orokaiva style.

121 If we wish to answer the question to what extent contact
between different "tribal" groups (or distant groups) of Orokaiva
has become more intensive since the eruption, we cannot confine
ourselves to contacts occurring in villages such as Sivepe or
Ilimo. Here the pattern suggested in the previous pages has hardly
[178] changed. The changes have occurred by the development of new
organisations (to which I shall refer later) through labour migration
and through urban development.

As I am at present discussing only unorganised contacts
464 between villagers, I can give only one clear instance of changing
166 attitudes and this is in Popondetta itself. Popondetta, the new
administrative centre of the Northern District, has about 4,000
633 inhabitants, almost all Orokaiva; among its inhabitants all parts
of the Northern District are represented, including Sivepe. The
[162] Sivepe people had many relatives there, mostly hailing from the
Sasembata district, and employed in some regular job in the town.
These jobs are partly in personal service to Europeans, but also
in light industry, the retail trade, public works and public service,
and go far beyond the little employment that was available in pre-eruption Higaturu (with a population which, judging from aerial
photographs, can hardly have exceeded that of a large village).
484 Popondetta is preeminently the place where intelligent men from
various villages can gather informally to discuss political and other
521 public questions, and develop a wider interpretation of the situation
633 of the Orokaiva which is learnt by the men from the villages when
they pay occasional visits to Popondetta. The town generates a new

484 sophistication which is spreading to the villages. This was not
yet very evident in Sivepe, though I shall later quote a few
521 examples, but far more so in Mohorita.
633 All the Orokaiva, including the people of Sivepe, liked to
make occasional visits to Popondetta, even though they had little
business there. They saw relatives and exchanged news with people
they met around town, especially outside the Steamship Co. shop.
News filtered down about the mission, the administration, the coffee
factory and various current ideologies were communicated. The
Inonda men visited more frequently than the Sivepe men; the women
visited less frequently than the men.

I had little chance to observe relationships between Orokaiva
609 and Papuans and New Guineans from outside the Northern District,
619 except when these served in some official or mission capacity. The
only exception was the workers on European-owned plantations. I
observed one incident at Mohorita which seemed to me highly significant.
The Sangara plantation, which is very close to Mohorita, employs
many Chimbu; bad feeling between plantation workers and villagers
had been built up over some time, without any specific major issue
of conflict. This culminated in a fight on a major scale. The
Mohorita councillor went over to the plantation to make peace; the
discussion ended with an invitation to the Chimbu to come to a
feast at Mohorita. This feast was a success and was followed by a
return feast at the plantation. Thus the Chimbu were placed on
the same footing as other groups, at one time hostile, with whom
feasting relations had been established, e.g., Sivepe and Togahou.
Mohorita people whom I interviewed explained to me that when they
quarreled with the Chimbu, they did not really know them, but they
were friends now.

Section 6: Contacts With Indigenous Office-Bearers

Among the victims of the eruption were 143 Papuan administration
731 servants as well as 27 Papuan constabulary, who died at Higaturu
along with the 46 European civil servants stationed there. The
Mission was somewhat fortunate that Martyrs' School at Sangara was
still closed for the holidays; the pupils and some of the staff had
not yet returned. Even so only 11 Papuan mission teachers survived,
including the present Bishop of the Northern District Diocese,
George Ambo, the priest at Sasembata, Fr. Albert McLaren, and the
now retired mission teacher at Seva, later at Inonda, Moses Kuamale.

657 At the time of the eruption, a certain number of new roles
177 had already become firmly established among Papuans: member of the
Royal Papuan Constabulary, Village Constable, Mission Teacher,
647 Medical Orderly, Clerk, Labourer. Post-war government policy aimed
at greatly increasing the number and scope of these roles, both by

177 If we analyse the reasons why the Australian government would
657 never have used these ordinances in the circumstances of 1951, we find
423 that these reasons lie principally in Western notions of government
responsibility for victims of disasters and other values of Western
Civilisation, restraining cupidity, and held more strongly that the
Orokaiva, on the basis of their information, could have taken for
granted. I myself found, and Mr. Sebire confirmed, that the Orokaiva
even today are extremely familiar with the provisions of this old
ordinance, and that they still fear it, even though it has been repealed
some years ago.

177 The episode at Ilimo therefore undoubtedly did much to increase
confidence in Australian intentions. Mr. Kaad stated to me that
657 the main ultimate purpose of the camp administration was to teach new
skills and a new way of life. Under camp conditions, there was a good
731 opportunity to teach these new skills and put forward new ideas, but
the real opportunity, he said, came later in the resettlement villages.
The people at Ilimo had their world shattered and were still recovering
from the shock. For that reason they could not absorb as much of what
they were taught as they could have done normally.

177 After Ilimo broke up, Mr. Kaad transferred to Saiho, where the
new hospital was then being built and where an administrative centre
657 was also established. (Only the Agriculture Department still operates
from there today.) He attempted to develop further the new ideology he
had been putting forward by contacts with the resettlement villages of
Agenahambo, Koipa, Awala, Wasota, Kongohambo and Hamumi. He continued
his educational, agricultural and medical programmes for some months
in these villages, but he was not able to stay long. From the viewpoint
of today, these programmes cannot be seen as marking a permanent change
in the pattern of Orokaiva-European contacts. It would be more correct
to say that the European soon became as remote as before but that the
ideas promoted at Ilimo and by Mr. Kaad were later taken up by the
people in the framework of organisations where direct contact with
Europeans retained only a minor role.

Section 9: Contact with Americans and Returned Ancestors

829 How did Orokaiva themselves classify white people? As we have
seen, they do not classify them according to the organisational role
they fulfill. I also found that ethnic origin of white people is
usually not a basis upon which Orokaiva will classify them. There is,
however, a more esoteric basis of classification which I encountered on
a number of occasions.

829 It is well known that in many parts of Melanesia, there is a
belief in the return of ancestors, whose skins are white, and who bring
769 wealth and a happier dispensation to their Melanesian descendants. The
Orokaiva do not appear to look upon every white man they see as a

173 accept, as genuinely held by the Hohorita people at the present time, a view of history according to which the Orokaiva had only small 829 gardens before the Europeans introduced axes and knives; it was only then that people started to make feasts, stopped eating wild fruit, etc. Here informants credited to Europeans innovations traditionally [342] ascribed to their own culture heroes. During the same interview, I was told the people used to build houses by making a fence and putting [177] leaves on top. The present house types, I was told, were introduced by Europeans. It so happened that this statement was substantially correct.

829 From these few examples (more data of the same kind could be quoted), it is already clear that the Orokaiva perceive some resemblance 773 between the Europeans and their own culture heroes. The Orokaiva ascribe whatever cultural goods they possess to the action of culture heroes who brought them these goods in primeval time. This applies not only to material knowledge (the making of fire, houses, clothes, the growing of crops, etc.) but also to social behaviour (institutions of warfare, marriage, feasting, etc.). The Europeans manifestly brought with them innovations of the same scope. Like the culture heroes in the myths, the Europeans have many valuable new things, but they are reluctant to give them to the Orokaiva. They prefer to keep them for themselves. Occasionally, though, they do give some of them away, or are willing to trade them, or are successfully tricked into sharing them. One of the recent gifts for which the Orokaiva are especially grateful are the Local Government Councils. I asked some of the most experienced councillors whether they were able to conduct the councils according to their own ideas or were forced to follow ideas laid down by the government. I was told that the councils came "not from ourselves but from the administration. We don't know about the council. It belongs to the administration. It was given to the village people." The council was given much in the same way as fire had been given by a culture hero.

929 Beneficial though the Europeans undoubtedly are, they are also perceived as exasperating and dangerous: exasperating because of their 177 refusal to share their goods, to set up proper relationships with the people and to adopt proper customs; dangerous because of the power of the police, the prisons, and--most of all--the Christian ● 731 God. It is from this viewpoint that we should regard the Orokaiva interpretation of the Mount Lamington eruption as reported by Belshaw and Keesing. Belshaw reports that most Orokaiva explanations of the eruption were religious in nature: "Some people said that this was God's visitation because they had disobeyed the Bishop's instructions to build new churches. Others said that God had punished them because they had not helped the Allies sufficiently during the war and because some of them had betrayed missionaries to the Japanese . . . This sense of guilt is a most important factor in resettlement attitudes." (1951: 242) Keesing agrees with this summary, adding that the eruption resulted in "strong feelings of insecurity and even of guilt in their

731 retrospective look at the pre-eruption way of life."

Though most of the contemporary evidence tallies with the accounts of Belshaw and Keesing, I should refer to two documents both [789] dating from 1951 which add some subtleties. The first is a short manuscript by Fred Kleckham, agricultural officer, Popondetta, in which he says that "the Lamington eruption which obliterated the government station at Higaturu was regarded by many as payback for the hangings" (of Orokaiva responsible for the murder of missionaries). I tried unsuccessfully to find Orokaiva who still hold this belief. Mr. Kaad had not heard of it and suggested that as Kleckham was mostly working in the coastal region of the Northern District, he may have heard this interpretation of the eruption in that region. In any case, the explanation is worth noting because, once a disaster has been attributed to the anger of a supernatural agency, the causes of that anger are open to many plausible surmises.

797
533 Father Albert McLaren, while at Ilimo, composed two songs one of which is still widely sung among the Orokaiva and even elsewhere, as it is included in a songbook distributed to primary schools in the Territory of Papua.

1

We were at Sangara
gathered together
With all our brothers
Living together

Chorus: Have mercy on them
Lord, we live in your hand

The mountain was made by Thee
It was not seen by us before;
Lord, when it appeared
We were wounded.

Chorus

O Heavenly Father,
Look on Thy servants
Who are in Paradise
In Thy Glory.

Chorus

When the mountain was shaken
They were watching
With their children
And were buried together

Chorus

2

797
533

In the land of Sangara
Are the bodies of our brothers
As though they were sleeping
But we shall see them again in the end

Our brothers on earth
Had many temptations
They went up to Heaven
In Thy Glory

The evening was bright
On the hills of Ilimo
But our thoughts
Are always with our brothers

731
789
Father Albert described to me his own experiences with the eruption. He lost his own brother who was with the mission, but he was saved because he had been sent to Isivita for the service on the day of the eruption. He was able to escape by running down from Isivita. When he came close to the village of Sinbeki, the darkness closed in. When the light returned, the clouds were red with flame or fire. When people saw this, he said, they thought the end of the world had come and this cloud was the fire of the Last Judgment that had come to burn them. Nobody knew anything about Higature being a volcano; or even of the existence of any volcano. They noticed the trees that were blown up, the branches broken down, the little hills of ash covering the valleys and people thought: this is the end of the world.

Father Albert said the Orokaiva did not use to have an idea of the end of the world; it was taught by Christianity. After the disaster, the people discussed it a great deal; through the disaster, God had shown the people just what was meant by the idea of the end of the world. I asked Father Albert whether he regarded the disaster as God's punishment for sins the people had committed, but Father Albert dismissed this idea: he did not think God would punish the innocent along with the guilty. This conversation took place many years after the disaster and can therefore hardly serve to refute the notion that in 1951, the eruption was regarded as divine punishment.

[797] Several government officials charged that the Anglican Bishop actually encouraged people to think that the eruption was a visitation of the wrath of God, as they had not followed the laws of the Church of England. They even add a variety of anecdotes, in which the Bishop threatened that if some demand of his (different in each anecdote) was not met, he would make the mountain erupt again. After meeting Bishop Hand personally, I must confess I am rather sceptical about these stories. The Bishop felt that some Orokaiva believed the eruption was a divine punishment. He stated to me that in his own sermons he

731 did not encourage this belief but spoke of the eruption as a natural
784 disaster. Certainly this is how Orokaiva often speak of it today,
especially when they wish to give the impression of being modern and
[797] educated. Papuans close to the Mission invariably speak of it as a
natural disaster.

A group of elderly people in Sivepe, however, produced a quite
different theory when I interviewed them in 1966. They explained
the eruption by the anger of the god Sumbiripa. I was told that this
explanation was the generally accepted one at the time of the disaster.
At Hohorita, I was likewise told that the people, at the time of the
eruption, thought of the anger of Sumbiripa, though later they learned
it had been a natural disaster. My Sivepe informants, however, added
[787] a refinement. Before Sumbiripa blew up, he gave two signs. To the
Isivita people and those of the Sasembata district he made a sign of
blue fire, which meant that these people would be saved. To the
Sangara people, he gave a sign of red fire, which meant that they all
died. The reason for his anger towards the Sangara people was that
they used to throw hand bombs and shoot guns on the mountain. This
theory has the advantage of explaining the facts more closely than
the theory of the anger of the Christian God; it is easier to believe
that Sumbiripa discriminated between the two tribes than that the
Christian God should do so.

731 Before attempting to draw these rather various interpretations
together under a common theme, I shall refer briefly to F. E. Williams'
152 extremely cogent discussion on the Orokaiva's general attitude to
guilt, for which I myself collected much additional documentation.
When an Orokaiva is wronged he displays a state of mind called _sisire_.
[762] A person who is _sisire_ withdraws, refuses food, destroys his own
property, may even commit suicide. By displaying his sorrow, he hopes
to shame the person who has wronged him. When a person is spoken
to roughly, he will feel _sisire_, "ashamed." It is the normal reaction
to being punished. The purpose is invariably to make the other party
feel sorry for what he has done. There is something of that feeling
in Father Albert's songs. The main mood is not so much contrition as
the hope that the singer will make God feel sorry. This is not quite
the same as what we understand by "guilt." All Belshaw's evidence
suggests that the Orokaiva people after the eruption felt very _sisire_.

Certainly, the eruption would be followed by a resolve not to
731 make the harsh power that brought the eruption angry again. Whether
784 this power was primarily identified with God or with Sumbiripa is
extremely hard to tell; it is even harder to tell whether these powers
177 were viewed as being entirely distinct. Father Albert's testimony
strongly suggests that the eruption was treated as symbolic of divine
wroth as it was presented in the Bible. I have argued earlier that
the Orokaiva look upon the Europeans as a new kind of culture heroes.
The new dispensation brought not only new wealth and new knowledge,
but also new wroth: Monckton's conquest, the world war, the eruption.
It does not seem far-fetched to assume that the disaster was taken as

731 a warning not to openly disobey the new culture heroes, to deal with
177 them gently and cunningly and avoid making them angry. Thus the
eruption led to greater circumspection if not contrition. It also led
[784 to a sense of deeper involvement with the new age. The immediate consequence was a fashion of modern village building in 1951, as both Belshaw and Kaad have reported. After this rather brief demonstration of respect to the deity, life reverted to its previous style for some years, after which there was a further period of innovation, more soundly based on the development of the Sasembata school, the local government council, the increase of economic opportunities, both in the towns and in cash cropping, and finally on nation-wide political development. The Orokaiva of today definitely sees himself as entering upon a new age, and he views this with optimism and some excitement. The eruption undoubtedly was perceived as a potent sign of the coming of this new age and the danger of resisting it. For this reason, it might theoretically be expected that new ideas would be accepted more eagerly in the resettlement areas than in the less affected areas such as Inonda.

177 Unfortunately, I find it hard to evaluate the Inonda data. The
Christian, cash-cropping families were as concerned to view themselves
554 as living in a new age as were the people of Sivepe. The views of the other families were hard to obtain. Crocombe and Hogbin pointed out correctly that these families explain their non-participation in the coffee scheme by difficulties in their land title. The two authors also characterised the Pagan families as being of "lower status", pointing out that the "higher status" families are (also in neighbouring villages) the most likely to plant cash crops or likely to plant most, (1963: 85) for reasons of prestige. During my own stay, the Pagan families set themselves against participation in the women's club, as they felt it violated traditional custom. I had the impression that there was a status conflict between the factions, as participation in the church, the women's club or any other European activity would have put the resistant faction in a clear position of inferiority, and increased the power of the leader of the other faction who ran all these activities.

Section 11: Acculturation

177 The contacts and the ideological changes sketched in the previous sections have not led to a basic transformation of the culture. Williams' classical account of the Orokaiva, based on fieldwork conducted in 1923, still corresponds in fundamentals to what can be seen today. In the present section, I shall draw attention to some aspects of the culture that have changed since the eruption, but it should be stressed that, in field observation, they are seen as embedded in a largely traditional culture, with a social organisation, economy,

621 manageable size. Jovareka was definitely not a hereditary leader in
Sivepe; in fact, he was not even born there. On the other hand, the
622 two men he saved belonged to the leading family of the Seho clan,
625 which is the dominant clan of Sivepe. In the circumstances, the law
of reciprocity demanded that the Seho clan backed Jovareka as a suitable
614 man to be village constable. His status was accordingly greatly
enhanced.

The scope of his role, however, may easily be exaggerated.
625 According to Samuel, he was put through a course of training of one
day. He was told about how to take a case to court and how to get
and give evidence. He was told not to belt anybody, but handcuff
them. He had to check that houses were built properly, that sago
roofs were replaced and lavatories built. He also had to see that
the men cut the grass in the village and the women swept, and that
the road built by the government was properly maintained. Each
village had its own stretch of road to look after, and this was subdivided
into sections for each of the men. This summary tallies
[384] with the statements of other informants. We note that some of the
included items (such as the women sweeping the village, the replacement
of old sago roofs) are traditional activities and hardly required
police supervision. Other of the included items, such as the building
of lavatories, remained a dead letter until after the eruption, and
it was not until 1965 that all houses actually had lavatories.
[759] Furthermore, it is only now, with the fear of sorcery diminishing under
the impact of Christianity, that anyone would dare to use a lavatory.

I asked Samuel whether he had ever handcuffed anyone or had
anyone jailed. No, he had never used the handcuffs. He had never
brought anyone from Sivepe to court. He had sent people from other,
surrounding villages to court. Tax was never collected past Sangara
in his day, he said, implying that his record would not have been so
serene if he had had to collect the head tax. Two Sivepe men had
actually been taken to court during his period of office, but not by
him; it was done by a visiting patrol, for not tending the roads, but
they were let off as they had just returned from a period of plantation
work. Other Sivepe informants told me that the village constable made
little difference to the way of life of the people and this must, I
[627] think, be conceded. Nonetheless, Samuel was evidently called in as
a mediator in quarrels in other villages and due to his influence,
some cases went to court.

The evacuation camp seems to have placed a heavy burden on the
625 village constables as they were the middlemen between government and
731 the village people, responsible for the distribution of food and
supplies and the setting up of village organisation in the camp. The
camp consisted in fact of a number of villages, closely together, in
which the village constable was much more in charge than he ever had
been. Permission to go back to the home area to check whether possessions
had remained undisturbed and to collect food, also had to be
given through the village constable who was put in charge of all such

625 excursions. This was, however, an experience of short duration and,
once back in Sivepe, the village constable reverted to his former role,
731 as described above. In 1956, all village constables handed back to
the government their handcuffs, the symbol of their authority, and the
Local Government Councils took over.

With regard to interpersonal relations, the evacuation set up
[685] a mutual distrust due to the removal of certain social controls.
[571] Theft is comparatively uncommon in Orokaiva villages, but this is
because property is extremely well-guarded and everyone in the village
is constantly under observation by other villagers. The idea of
villages being left unguarded was repugnant to Orokaiva, and fear of
prowling had to be countered by strict control on the part of village
constables over anyone entering the restricted area. I could find no
evidence of a change in interpersonal relations beyond the period
of evacuation.

The Orokaiva are not often observed to work in groups; from
476 the relatively acephalous structure it may already be inferred that
571 they do not have regular work leaders controlling groups. Most
gardening is done by each extended family separately; house building
is done by the prospective occupants with the help of some individuals
who feel an obligation, mostly a brother or brother-in-law. Even at
feasts, there is a minimum of truly communal labour: the food is
supplied by individuals who deliver it to the display platform and it
is only the dancing, the ceremonial and a few minor construction tasks
that may be communal. There are in Sivepe two yam gardens where work
is communal; these are in sharp contrast to all other garden work.
Yet people readily gather for common efforts which have a festive and
ceremonial nature or enterprises which arouse an episodic enthusiasm.
Examples are the communal fishing and hunting expeditions, projects
such as the mission hospital or the marking of the ward boundary.

Even during these communal episodes, the tendency is for each
small group to perform a certain task separately, though contemporaneously.
A hunting party splits up into family groups who do not meet again
until the hunt is over. In fishing each group has its own spot.
Similarly in the building of new Sivepe, there was little that was
overtly communal, as each small group was working on a house for
themselves or a close kinsman. Nonetheless, one would be wrong to
[342] describe this pattern as Individualistic. After all, every house was
in the same style and of the same size--and this was not wholly a
[177] "traditional" style; it was a style introducing new materials and an
increase in size of about 50%. When such a change is made by everybody
who builds a new house, this indicates that the group is strongly
bound by collective decisions.

177 Unwittingly, the Australian government has tended to make the
Orokaiva more oriented towards group work than he was before. Road
654 work, the compulsory planting of rubber trees, compulsory resettlement
571 in larger villages--all these added to the volume of group work while
the volume of individual work remained constant within the villages.

777 this lineage was the village constable. Though the records are by no
means satisfactory, it is clear that between 1955 and 1963, virtually
the whole of the Jegase clan became baptised while in 1963--but only
then--the majority of the Seho clan became Christian. The time lag
between the clans was not insignificant, as the head of the Seho clan,
who refused to be baptised, died in 1963, and it was after his death
that the new leader, his son, joined the Church, together with his
clansmen. It would be wrong, however, to suggest that it was only
the death of the old leader which delayed conversion, because the
records for the Sasembata district as a whole show 1962 and 1963 as
the years that Christianity became the dominant religion in these
villages. Before 1963, the pattern seems to have been similar to the
present one in Inonda: one clan or faction was baptised, while the
[759] other held out. I was told that it was the old men with a reputation
for black magic who felt most disinclined to abandon Paganism, as they
feared it would harm their powers.

● 731 I shall delay a general discussion on the Church until a later
Chapter and confine myself here to a discussion of the impact on
777 community organisation. Undoubtedly, the eruption accelerated the
development of some of the Anglican mission stations. While before
1951, the mission in that district was centralised in Sangara, the new
centre was in Popondetta, well away from the populous area around the
mountain. The major station still operating in the Mount Lamington
area was the one at Wasata. In 1951, major stations were established
at Sasembata, Agenahambo and Irihambo, while the Hohorita and Isivita
stations which followed later completed the coverage. One impetus to
the support given to the Sasembata station by the people was undoubtedly
the active programme of the church during the evacuation period, when
there were daily church services as well as church participation in
the education and health field.

871 One feature that became established during the evacuation period
was regular schooling for the young. The extent to which the people
731 recognised this as a momentous change in community life is shown by
a ritual introduced about that time and still observed at the present.
177 In 1967, the head teacher announced that school would start on a
Thursday but no pupils came. The people told him the children were not
[852] "ready." The following Sunday, all the children--and only the children--
gathered for a "feast"--a common evening meal at which they were
obsequiously served by the adults. This was a feast to farewell them,
I was told, for the next day they would go away to the school. The
measured distance between the village ground and the school ground was
six chains. The children were home every night and every lunch hour.
Nonetheless, in a more essential sense they were leaving the village
to submit to the influence of strangers.

794 When Sasembata station was reopened in 1951, no community
organisation was associated with the church so that the mission teachers
had to make contact with villages for any work they wanted done and
this was arranged on an ad-hoc basis. Nowadays, there are two forms of

CHAPTER IV: Contacts with Congeners

Section 1: Kind and Frequency of Contact

731 628 Because of the circumstances of relocation of the Orokaiva, one cannot generally study relationships between persons who were resettled and persons who stayed in their old locations; the old locations were in general restricted areas which remained uninhabited. For a short period, the population of Sivepe was split into one half resettled on their old lands and one half resettled at Awala. If Awala had offered a viable alternative to residence at Sivepe, an interesting interrelation between the two groups might have developed. As it was, the Seho people who stayed with their clansmen at Awala, established gardens at Sivepe and soon preferred to return. Likewise the Seua people who escaped to Inonda chose the return to their own lands, even though there was no shortage of land at Inonda. While the Seho clan group stayed at Awala, they made frequent visits to Sivepe, but their children went to school at Awala. Once Old Sivepe was built and gardens were established, the Sivepe people made a large feast for Awala, to express gratitude for the hospitality received. (1954)

Section 2: Encouragement of Contacts

731 ? 654 From the first week of evacuation, both government officers and village constables and other community leaders were well aware of the homesickness of the people and their desire to return as often as possible to the villages they had left behind. The camp authorities at Ilimo were only too well aware of the profound shock and despondency of the people and were ready to allow brief expeditions to home villages as long as this could be done without creating fresh conflicts. Hence a policy was developed of permitting return for short visits under supervision of village constables and involving only a limited number of people. Men only were allowed to go home, as the authorities were afraid (not without reason) that if families went back to the villages it would be hard to get them to return to camp out of the restricted areas. In case of further eruptions, the administration of the camps would naturally be blamed. It seems very likely that the initiative for the organising of these expeditions came from the community leaders. Village constables would request permission from Mr. Kaad, mostly because people put pressure on the village constables.

654 After resettlement in Awala and other villages, the government
made no attempt to discourage the resettled people from making contact
● 731 with other villages, as long as they did not begin to reside within
the area that was still restricted in May, 1951.

Section 3: Morale of the Relocated Community

731 In earlier chapters, I have already drawn attention to the
widespread homesickness of the evacuees and their insistence upon
823 maintaining identification with the homeland. Undoubtedly, separation
from this land compels the Orokaiva to abandon many of his customs and
traditions of the past, because so many of these customs and traditions
[152] arise out of association with the land. To give only one example, a
ceremony thought to be necessary for the survival of a new-born child
is, even now, performed in a family garden. Separation from the family
[794] land makes such a ritual impossible. At Ilimo, traditional rituals
were replaced to some extent by the unaccustomed frequency of Christian
religious services which were always well-attended. This, however, was
at no time accepted as a substitute for the old way of life.

731 Naturally, in the circumstances, people did not feel any pride
or satisfaction in their situation in the evacuation camps. Once they
177 were resettled in new villages on their own land, they felt pride in
the new villages and in the "new way of life" they had adopted. Sivepe
[438] was proud, for instance, of having discarded its pigs. On one occasion
they were bargaining to buy a pig from neighbouring Garombi which still
[628] had its pigs. During the bargaining, a Garombi man taunted Sivepe about
its lack of this kind of treasure. The Sivepe people haughtily called
off the sale. Such pride and interest in innovation was associated
with a sense of security regarding land tenure and Sivepe's status
in relation to other villages. If Sivepe had not felt secure in its
ideology of the "new way," there would have been dismay at Garombi's
taunt about the lack of pigs. But nobody in Sivepe doubted the rightness
of the choice that had been made.

CHAPTER V: Disease

Section 1: The Community as a Carrier of Disease

164 Data on Orokaiva health are sparse due to the absence of medical
research. Some of the picture may be seen from the table of 1966
hospital admissions of St. Margaret's Hospital, Eroro (Table 11).[A]
The figures for serious illness over the whole of the Northern District,
are of course far higher than these figures indicate as only a fraction
of cases of illness come to the notice of the hospital. It is estimated
at 90% of the population is infected with malaria while filiariasis,
gastro-enteritis, influenza, scabies and other skin diseases are also
[146] extremely common. Some rough studies of Orokaiva diet, carried out
under the auspices of Saiho hospital, seem to indicate that mal-
nutrition plays only a minor role as the cause of Orokaiva disease,
and patients admitted to hospital rarely have diseases caused by
[165] malnutrition. Malaria causes many deaths among children, including
one in Sivepe during the time of my stay. People are extremely anxious
[753] about disease, even mild attacks of influenza or of malarial fever.
The cause was always thought to be sorcery.
[754]

Section 2: The Community as the Victim of Unfamiliar Disease

164 No unusual incidence of disease was noticed in the evacuation
camps, except for infections due to bad water supply at Cape Killerton
731 camp which was evacuated after a week. Dr. Gunther noted some spinal
meningitis and paratyphoid as "the result of close living together in
camp." Some old people died, as informants told me, due to grief and
loss of the will to live after the disaster.

Section 3: Community's Perception of New Location as Healthy or Unhealthy

753 The inhabitants of Ilimo camp were not particularly concerned
about health dangers in their new location. Ilimo was not far away
731 from their own territory; villages such as Sivepe had had at least
some friendly contact there and their fears were concentrated more on
the safety of some of their kinsmen and the threat to the land and
possessions they had left behind. It was different for the Sangara
and Isivita people who were encamped in the Oro Bay area, in the midst

[A] [See Cat. 116, p. 216--Analyst]

753 of traditional enemies, in territory which had always been regarded
as hostile and dangerous. Keesing furthermore reports that "these
731 mountain people apparently could not conquer a fear of the sea, and
[821] this was reinforced by a rumour that a supernatural "tidal wave" was
to occur along the coast. The camp director told how every night the
more timid scattered on to the higher ground rather than sleep in the
camp on the foreshore."

There is no record that any fears continued after the people were resettled on their own lands. For instance, they ate the products of their land without regard to the fact that they had been scattered by volcanic ash.

164 The abrupt change in diet which occurred in the evacuation
camp seems to have had no injurious effects and aroused no great
262 concern. The people liked the rice and meat rations they were given.
731 After awhile they began to long for their own food. Their expeditions
to their home villages enabled them to collect at least some taro for
themselves.

128 I shall discuss the general health problems of the Orokaiva
and government and mission health measure in subsequent chapters.

CHAPTER VI: Government Welfare Efforts

Section 1: Relocation Plans and Their Implementation

657 After the second world war, the Australian government became strongly oriented towards economic development of the indigenous population in its Territories. While before the war, the policy emphasis was perhaps more on the maintenance of law and order and the development of expatriate industry, it is after 1946 that we begin to find the active encouragement on a wide scale of co-operative societies, agricultural extension projects, marketing projects, rural progress societies, and later Native Local Government Councils, as well as other political and economic programmes. Even after 1946, progress was slow and in a recent survey, R. S. Parker suggested that "relative inattention to economic development up to 1960 have left a great leeway to be caught up under insistent pressures of time and external change." (1966: 189)

In 1951, shortly after the first eruption of Mount Lamington, the Hon. Paul Hasluck became Minister for Territories in the Australian Cabinet, and Sir Donald Cleland became Administrator of the Territories. One of the chief concerns of the new administration was to increase the scale, the level of technical competence and the concentration of effort in the departments concerned with indigenous development. (Parker. ibid. 195) The relocation policy in the Northern District is more easily understood if it is remembered that in 1951 a new central administration was eager to make rapid strides in economic and social development while the staff establishment and the "basic craftsmanship of the service" (Hasluck quoted in Parker, 1966) was not yet adjusted to these new objectives.

In considering Australian relocation policy, we must therefore keep in mind that there was a disparity between the more sanguine development objectives and the available resources. Furthermore, there was no real consensus in the administration on the scope that [124] should be given to the development objectives. When I interviewed persons concerned with the events of 1951, everyone told me that the establishment of the camps and the resettlement villages was principally a rescue operation, and that wider development objectives were only [731] incidental. On the other hand, it was possible, from published statements by Belshaw, 1951; Keesing, 1953; Plant n.d.; and interviews with Bishop Hand, Mr. F. Kaad and others, to piece together a quite different attitude to the disaster that must have been current in 1951 among high-level development-minded officials. According to this approach, the disaster offered a unique opportunity to try out some

657 731 ideas concerning socio-economic development. It looked in early 1951 as though the evacuees would not be able to go back to their homes for a long time. The vulcanologist had recommended a large restricted area (see Map II)[A] and was doubtful when (if ever) it would be safe again for human habitation. It looked as though thousands would have to be resettled in altogether new surroundings. Such resettlement could only occur under strict government supervision; in these villages, it looked as though the government might have the opportunity to introduce a new way of life: model village layouts, cash cropping, improved land tenure, better education, health services, everything in fact that developers still aim at today, except that no plans existed for the setting up of new political institutions.

[177] To what extent were the evacuees involved in plans of this kind? Mr. Kaad often spoke to the evacuees of Ilimo about his ideas concerning development. Belshaw's evidence shows that a number of Orokaiva to whom he talked were eager to embrace a new way of life and, especially, that they were anxious to get better educational facilities. He also detects a strong motive for the Orokaiva to agree to any propositions Mr. Kaad put to them: they hoped that thus they would be allowed to leave the evacuation camp earlier than if they argued back (1951: 246). Mr. Kaad himself expressed to me the view that the evacuation camps were too stressful an environment to be propitious for the teaching of development ideas.

During the time when large-scale development was envisaged, at least three persons of authority and scholarly qualifications were asked the Territory administration for their opinions. Belshaw (1951) advocated a general broadly-based socio-economic development programme, in line with modern theory of applied anthropology, but far beyond the resources and administrative skills of the Territory at that time. Keesing (1953) recognised that the resettlement had been "remarkably effective" as a means of reducing "cultural trauma" caused by the eruption. He further commented: "Any attempt by Government and Mission to use the emergency to manipulate such a people and culture arbitrarily in drastically new economic and socio-political directions would seem foredoomed to failure, and would generate unwanted tensions." Plant, an anthropologically trained administration officer, studied some of the practical consequences a wholesale resettlement policy would have. He worked out an elaborate scheme whereby groups would be resettled in villages where there were local groups with the same clan name--a procedure which the thought would be in line with traditional social organisation--but he also showed that resettlement outside the restricted area, as defined in early 1951, would probably lead to land shortages.

Shortly after these three studies were made, an unexpected event changed the situation. The vulcanologist found that the active, paroxysmal stage of volcanic activity of Mount Lamington had ceased after less than two months and hence, a large part of the restricted area could be resettled long before he had earlier been led to expect.

A [See Cat. 116, pp. End Map 2(A)-End Map 2(B)--Analyst]

657 731 In March, 1953, he was able to reduce the restricted area still further, to a circle of two miles' radius around the crater. Thus, all areas that had ever been used for the growing of taro and for village sites, became available to the Orokaiva once more. In these circumstances, it was inevitable that the fertile slopes of Mount Lamington were again occupied in much the same way as before the eruption.

As the first chapter of this report deals adequately with the planning and establishment of the evacuation camps themselves, I shall confine myself in this section to resettlement after the period in the camps. The number of places in which groups were settled between the day of the eruption and the present varies somewhat. The Sivepe people all went to Wairopi for a few weeks, then to Ilimo until end May, 1951, then to Awala, where some stayed briefly, others for a year. Since then the present families all stayed at Sivepe. On the other hand, the present population of Mohorita went to Cape Killerton (one week), Oro Bay (about ten weeks), Popondetta (a short period), Irihambo (almost five years), until they were able to reach their present site. The resettlement history of other villages close to the mountain, such as Kiorota and Begavaturu was about equally long.

We may generally distinguish two phases of resettlement, following the evacuation camp period. The first phase, occurring around May, 1951, was the transfer of groups from the camps to a number of chosen "resettlement" villages, mostly along the main road from Waseta to Popondetta, but also on sideroads, e.g., Saframe and Kongohambo. This is the phase when an attempt was made to set up model villages of largish size under close government supervision, following discussions at Ilimo when the people concerned had agreed to live together, and to make the innovations. It was no doubt the intention of Mr. Kead to continue in these villages the educational effort started at Ilimo camp; and this will be discussed in subsequent sections.

The basic problem, however, was to ensure satisfactory garden lands for the resettled groups. The weakness of the locations chosen by the government was that they were mostly placed along one main road and thus within walking distance of only part of the available garden land. As Plant and Keesing foresaw, it was inevitable that the settlements would split up so as to bring people closer to their garden land. It is mainly for this reason that the Sivepe people did not stay at Awala. Furthermore, the resettlement was based on an analysis by Plant according to which a local clan group could be resettled in any village where there was a group with the same clan name. I shall give only one example of this sort of analysis, to show its effect. There are Jegase clan groups in Sivepe, Binduta, Sui (near Awala) and Isivita. Plant therefore suggested that in the resettlement of Isivita, the Jegase clan group could be shifted to Kongohambo and be given the use of land at Sivepe, Binduta or Sui. Some Isivita evacuees therefore [423] went to Kongohambo while others went to Koipa. The Jegase of Isivita were thus made to join groups which were themselves already fairly short of land and, in the case of the Jegase of Sivepe, dependent on

657 maternal relatives. Moreover, the fact that these groups have a clan
731 name in common implies very much less than that they have rights in
each other's land. They have rights to be protected and succoured as
423 brothers in times of war, starvation or other emergencies, but rights
in land cannot be established on that basis.

The government sometimes went to considerable trouble to give
supposedly secure land tenure to those who agreed to stay in the
resettlement villages. I have already stressed that in such cases one
cannot speak of "clan land" being made available to the immigrants,
because all Orokaiva land is owned by individual extended families.
[426] In such cases, individuals lend pieces of land to immigrants who are
allowed to cultivate them on a year-to-year basis. Their usehold
lapses when they leave the community. It goes without saying that
where this land is used by the techniques of shifting agriculture, a
man cannot depend on the land resources of his new village unless he
gets enough land to make about eight gardens in eight successive years.
Plant estimated immigrants' needs at five acres per person and this
is a good deal of land. I know of several cases where land was lent
to people who needed some. The pieces transferred usually measured
at the most one or two acres--enough, to be sure, for subsistence over
a short term but no more. The effect of this is not to make life
in the new village impossible but to hold the immigrant in a position
of dependence on landholders. Understandable, the immigrants make
every effort, after resettlement, to cultivate their own land, even
if it is situated some distance away. Once they begin to do this,
the temptation to build a village near their home gardens is very
strong. According to Orokaiva ideas, the immigrants lose all rights
over land which has been lent to them by their hosts as soon as they
stop residing in the village where the land is. Thus, as soon as
people decide to leave a resettlement village, they lose any rights
in it that their hosts may have given them, if Orokaiva legal principles
are followed.

I shall illustrate these principles in one concrete instance,
the resettlement village of Mumuni, situated between Sasembata and
Waseta, and I shall show how the government attempted to improve the
land tenure position of resettled groups. After the eruption, the
people of Dapari were persuaded to settle in Mumuni, which was intended
[425] as one of the new style resettlement villages. They were given some
land to cultivate and stayed for several years. When the government
[245] began to encourage the planting of coffee trees, the Dapari immigrants
planted coffee gardens at Mumuni. Under Orokaiva law, it is permissible
[426] to plant trees on borrowed land provided the owner consents and the
produce from that tree will then always belong to the planter, even
[422] when the land as such reverts to the owner. One frequently sees a
betelnut palm or a breadfruit tree which is owned by a person who at
one time borrowed the land and which is harvested by the planter and
left undisturbed by the owner of the land.

657 731 423 245 It is a ticklish question whether this rule similarly applies to coffee trees which differ from the traditional kind of trees in two ways: first, in that they occupy the whole of a piece of land and not just a few square feet of it and secondly, in that they are a source of cash income. The government was aware, from the beginning of the coffee scheme, that traditional Orokaiva law might be inadequate to protect coffee growers but balked before the huge task of giving all Orokaiva a legally registered title to their land. If this were to be done according to the principles of Australian law, it would involve expensive surveys, endless litigation and cost many times the value of the land, even if qualified personnel could be found to do the work. The Northern District administration therefore hit upon an ingenious dodge, by which the Higaturu Local Government Council, after summary investigation, issued declarations allotting land to persons who wished to plant cash crops. These declarations, made and witnessed by the clan elders, allotted the land to the grower in perpetuity. (For details see Crocombe and Hogbin, 1963: 89 f.) The practise of issuing these declarations was soon stopped by the authorities in Port Moresby who ruled that they have no legal validity, but Mumuni is one place where they were issued.

657 731 423 578 628 After planting their coffee at Mumuni, the Dapari people began to depend for their subsistence gardens on land they owned in their own natal district, which was an hour or so from Mumuni. All the Dapari people, except for the Jegase clan group of Dapari, went back to their natal district to build a new village; the Jegase clan group was the only one to stay behind at Mumuni. Their position was more favourable, as they owned land near Mumuni; hence they had no reason to go back to Dapari. I met these Jegase people when they visited Sivepe to receive brideprice. They told me then that one Mumuni man had made a large gift of land on which all the Dapari people grew their coffee. The Jegase group was growing coffee there without being disturbed by anyone, nor were they ever asked for payment. On the other hand, the owner wanted his land back from those Dapari people who had left to build their own village. But this group insisted on holding on to their coffee plantation; they stayed at Dapari and had subsistence gardens there, but they returned to Mumuni from time to time to look after their coffee. They claimed they were entitled to do this because they had been registered as owners in the Higaturu Council declarations. Thus a conflict developed, in which Mumuni relied on traditional custom whereas Dapari relied on a (legally invalid) kind of certificate of title. In this quarrel, the government could do little except hope it would blow over.

A New Zealand geographer, Mr. Peter Aitkins, who made a study of this area (unpublished), told me that the Mumuni people had begun harvesting coffee from the Dapari-planted plots. My own investigation showed that nothing was ever stolen from the Jegase clan group (who had not left Mumuni) and that Dapari hàd offered to sell the coffee stands to the Mumuni owner of the land, and that the owner was prepared

657 to buy, but there was no agreement on the price. Thus the thefts
seem to be a stratagem to get Dapari to agree to a lower price.

731 The first lesson we may draw from this example is that evidently,
423 resettlement villages are liable to be unstable unless the resettled
group has solid land rights close to the village. Thus, the resettle-
[578] ment of a group of Garombi people in Sivepe in 1966 may well be stable
[628] because these people own land within a one-mile radius from Sivepe.
But the resettlement of Dapari people in Mumuni was unstable because
the Dapari land was more than one mile away. In fact, the distance between Mumuni and the Dapari lands could not have been much above two miles, but this is still too far for subsistence gardeners. It is therefore clear why Sivepe people did not agree to stay at Awala after 1951: their land was between two and four miles away from Awala, and this was regarded as an excessive distance. In the light of the events at Mumuni, we would be wrong to regard this attitude as "traditional" and "opposed to modernisation;" it was a shrewd assessment of the drawbacks of resettlement villages.

657 In the first phase of resettlement, the government took a
predominant part. Before evacuees could leave Ilimo, they had to
731 agree to resettlement in one of a number of villages which were to be
developed according to modern principles. The government took pains, however, to work out the details of resettlement in consultation with local Orokaiva leaders. Nonetheless, arrangements such as the sending of the Jegase of Isivita to Kongohambo, in the hope that they would be helped by local Jegase clan groups, were not based on a realistic assessment of the possibilities. This agreement was easy to get as it was seen to be a necessary condition for leaving Ilimo camp. Resettlement plans were thus imperfectly adapted to the traditional relationships between the groups concerned.

621 In the second phase of resettlement, many of the groups allocated
to the scheduled list of resettlement villages branched off to villages
731 of their own. This process started almost at once and continued for
657 more than five years. I have already stated that in Sivepe this phase--
the withdrawal from Awala--took place in the years 1951-1952, while at Hohorita, Bagevaturu, Kiorota, Seva, Dapari it happened a good deal later. In this second phase, the participation of the government was much less active. In Sivepe, a patrol officer made a decision as to the site of the village and the groups to be contained in it but this was only after half the people had already lived in Pamba for some time and a quarrel with neighbouring Kongohambo had broken out, and when the Seho people were returning to the area.

The history of the settlement of Kiorota and Bagevaturu may be traced from a file of the Department of District Administration, Popondetta (12-3-2A). As already mentioned, the Isivita evacuees, numbering 1,869, were "re-established" in the resettlement villages of Kongohambo and Koipa. Soon disputes began to arise owing to the insufficiency of land--villages such as Sivepe could give only limited help in the way of lending gardening lands and marauding pigs were

621 another source of annoyance. Some village groups requested permission
to move from Koipa and this was granted. A report on the file refers
657 to the clearing of new gardens South of Koipa (end 1956), but in
731 May, 1959, we read that these persons who left Koipa had "over the
last 18 months split into two groups one of which settled at Bagevaturu
and the other at Kiorota." The villages had been laid out (according
to "modern" principles, as I myself observed), gardens and garden
houses established, coffee planted. Government supervision over these
movements was much less strict than it had been in 1951, though
strictly the village sites ought to have been approved before the
villages were built.

This second phase of resettlement became possible because the
657 first phase was not accompanied by any renunciation of land rights,
731 or foreclosure of the possibility of return. At no time did the
resettled groups give to anyone else a permission to occupy vacated
423 lands nor accept payment for any of their land or its products. After
245 this second resettlement, however, one substantial land tenure problem
remained. The nature of this problem is the second lesson to be
drawn from the example of Dapari tenure described above. The traditional
Orokaiva land tenure system is not well-adapted to cash cropping.
The Dapari people are likely to lose their coffee plantations as a
result of tenure difficulties. Likewise, Crocombe and Hogbin believe
that the failure of several Inonda families to plant coffee is due to
tenure difficulties. The Inonda families who did plant coffee were
careful not to do so on the extensive land holdings which they inherited
from maternal relatives because they feared claims that might otherwise
[428] be made by maternal kin. The fact is that a large proportion of
Orokaiva land is held on a legal basis much more complex than patrilineal inheritance. When an Orokaiva holds land he has inherited from his father, both he and his father having continuously resided on the land, that man is indisputably the owner and he can grow coffee or rubber on that land without fear of interference. We have already seen that no Inonda land is held in this way. In Sivepe, most men have some land of which they are indisputably the owners, but at the same time most of them also have useholds over many pieces owned by maternal kin or affines or absent agnates. They are "looking after" this land, and the true owners never trouble them as they either have their own usehold lands in the villages where they live or are working in towns or on plantations.

These circumstances change as soon as cash-producing trees begin to be grown. It is then that claims begin to be asserted and Orokaiva customary law has no way of dealing with such claims. The owner is certainly entitled to a share of the proceeds, and the size of that share is dangerously indefinite.

Inquiry in Sivepe showed that the people were well aware of the danger. All but two coffee growers had planted on land inherited from their fathers, preferring to use their other lands for subsistence crops. One of these two exceptions was the Seho clan chief who had

657 planted coffee on his mother's brother's land. He explained to me
that this mother's brother was dead and nobody except himself had
731 any claims on the land. The second man, who had planted on his wife's
423 land, was not so fortunate. His wife's relatives live in Sivepe and
lost no time asking for the return of "their" land as soon as the
245 coffee was harvestable. He settled for a compromise: he planted
coffee on some of his other land and promised his affines they could
have their land back as soon as his new trees began to bear. As far
as I could discover, this was agreed to.

423 It has been argued by several students, especially Crocombe
and Hogbin, that title improvement is a necessary requirement for the
success of cash cropping in the Northern District. My own findings
suggest that the importance of title improvement varies a good deal
between villages. Where, as in Sivepe, a fair amount of land is held
under an undisputed title, no great gain in productivity can be
expected from the formal registration of these good titles. In other
places, such as Inonda, it is of course essential.

Crocombe and Hogbin (1963: 89-93) have described some early attempts to register Orokaiva titles under some scheme administered by the Higaturu Local Government Council; after describing several rules passed by the council for this purpose, each of which was in operation for a short period and then rejected by Port Moresby officials, the authors conclude: "Registration is of doubtful validity, but to the extent that the Orokaiva accept it as binding (and they appear to do so unreservedly at present) it functions in practice." The example I have given of the dispute at Mumuni shows clearly the disadvantage of all such informal registration procedures. If the Dapari people were to lay an information with the police that Mumuni is stealing their coffee, could any judicial officer convict any person from Mumuni of theft and send him to prison? I cannot imagine that Crocombe and Hogbin would applaud such action.

The government made a fresh approach to the problems of indigenous
657 land tenure with the passing of the Land Titles Commission Ordinance
423 1962, the Land (Tenure Conversion) Ordinance 1964, and their amendments.
Under these provisions a Land Titles Commissioner has been appointed
at Popondetta whose task it is to determine the land titles in
specifically designated "adjudication areas." The Commission prepares
an adjudication record showing what land in the adjudication area is
native land and the ownership of each piece of that land. A native
may then apply for registration in his name of any native land included
in the record by agreement, but no titles can be reigstered in a piece
of land which is less in either area of frontage than the standard
prescribed for the purpose for which the land is likely to be used.
In practice, this has meant that every individual holding registered
by the Commission should have a minimum area of 20 acres.

The operation of this system, and its difficulties, may be instanced from my observation of an attempt to apply it in Hohorita in 1966. Hohorita is a resettlement village harbouring some 12 clans;

657 423 retained as much land as they had before, after the boundary was cut. They had received some Sivepa land and they had lost an approximately equal amount of their own.

Thus, the lower Sasembata ward is now declared an adjudication area of which the owners are about 600 people listed in the census records. Between them, these 600 people are now the undisputed owners of perhaps 2,400 acres of gardening land. The government would now like to see this area subdivided into some 120 economic holdings registered in the name of a single owner, but this is recognised as being extremely difficult. In one respect, however, this latest government approach is vastly superior to the previous ones. In treating residence as the basis of Orokaiva land rights, the new policy comes much closer to Orokaiva conceptions than earlier schemes which treated the patrilineal clan as the basic unit. The choice of the ward (rather than the village) as the adjudication area was fortunate in that it was much less disruptive of residual rights held by agnatic and at times affinal kin residing in nearby villages. On the other hand, the assumption that the ward territory can be profitably subdivided into 20-acre family holdings may not conform with Orokaiva expectations and conceptions. The administration is in danger, in this respect, [591] of being misled by its own ideological bias. The enthusiasm people felt about the establishment of ward boundaries was based on the hope that thus the people of the constituent villages could form a big "company," as cooperating group which would function as a cooperative. I have already mentioned the paradox that the Orokaiva is an individualist but at the same time has a deep belief in the power that can be gained from corporate action. Ward producers' cooperatives, if they can be organised, may provide an excellent incentive to productivity while at the same time enabling some mechanisation to be introduced, both in transport and cultivation. The model I have in mind here is that of the incorporations established among the New Zealand Maori in the Native Land Act 1909, and developed since until their annual income today is in the range of several million dollars, earned largely by sizeable units often with an ownership running into several hundreds. (See Hunn, 1961; Schwimmer, 1968: 26-28.)

The problem of adapting Orokaiva land tenure to conditions of [731] a cash economy, though not yet solved, has some promise of being successfully tackled. If all Orokaiva land were held under secure tenure, many new areas would undoubtedly be planted in coffee and other crops. The resettlement programme following the eruption of Mount Lamington has not, as I have shown, contributed anything to the establishment of persons on secure land holdings but the present policy of consolidation, perhaps followed by partitioning into economic family lots, is more likely to achieve this objective.

Section 2: Economic Assistance

177 **Subsistence:** Undoubtedly, European contact had a profound influence
on the subsistence economy, both through the introduction of steel
433 tools and of the pax Australiana. The government did not, however,
intervene directly in the operation of the Orokaiva subsistence
economy; it was a very simple economy, but it provided, in general,
adequate nutrition and housing. The first time the Orokaiva subsistence
731 economy broke down seriously in the post-contact period was immediately
657 after the eruption of Mount Lamington. The government therefore decided
to offer some limited assistance towards the re-establishment of the
subsistence economy in the resettlement villages built when the
refugees left the evacuation camps. One requirement of the new villages
was a food supply until new gardens had been made and harvested. This
[241] requirement was met by the planting of a quick-growing variety of sweet
potato in villages in the vicinity of Ilimo camp. The government also
bought up any root crops the Orokaiva could supply and distributed
these in the resettlement villages throughout 1951, as needed.

The opportunity offered by the evacuation camps was also taken
731 to introduce a few innovations which, it was thought, would improve
242 subsistence gardening in the resettlement villages. People were taught
the cultivation of the variety of sweet potatoes mentioned above, as
well as of corn, tomatoes and beans. Seeds and plants were supplied.
An agricultural officer demonstrated on a large scale the growing of
[412] sweet potatoes and peanuts. In order to facilitate the rapid establishment
of gardens--which the government hoped would be bigger and better
than the pre-eruption ones--small spades were distributed to villages.
These small spades were not a familiar implement to the Orokaiva, but
the agricultural officers thought they would be more efficient than
the wooden implements and large shovels hitherto used in villages.
These small spades cannot have taken on very well; I saw none in Sivepe
or Inonda. I myself had brought a spade for the garden I established
in Sivepe, but my neighbour, upon seeing it, at once supplied me with a
grubber (ex-American army stock). A very brief acquaintance with the
root structure of the garden weeds convinced me that a spade was indeed
[227] of limited utility. Finally, in order to add to the supply of protein
in the resettlement villages, the camp superintendent distributed some
snorkels for catching fish.

Keesing reports there were fears in the camp that the eruption
731 would have destroyed taro seed stock, but this fear proved unfounded.
134 The taro plants remained perfectly healthy and the volcanic ash made
the soil amazingly fertile for awhile, so that food shortages were
quickly relieved.

Issue of Food: In the camps, rice, tinned meat, tobacco were distributed
731 according to a ration scheme based on the census figures. Each village
657 constable was issued with rations for the number of people resident in
the villages under his control. These distributions were continued in

731 the resettlement villages as needed, but soon replaced by issues of
657 the sweet potatoes and later, village-grown crops. Distributions
tapered off after May, 1951, and ceased at the end of that year.
Commercial Enterprises: Agricultural activities are the only kind of
enterprise which are encouraged or assisted by government. These
activities are mostly conducted by individual entrepreneurs. No
rewards are never given for land clearing, nor are any labour costs ever
paid. The government assists by providing coffee, rubber and cocoa
seeds to growers. Initially these were free; nowadays, growers are
charged the cost of seed.

Although there is provision in the Territory for credit assistance
452 for economic development, small growers of cash crops such as are
657 found in Sivepe and Inonda are not eligible for this credit. A short
time before I left, one man from Inonda (again the government driver)
was encouraged to apply for a loan under a new experimental scheme
for beef cattle farming, but the arrangements were not complete when
I left.

The government provides marketing assistance to New Guinea
245 growers of coffee (mainly indigenous) by a remission of duty on raw
652 coffee imported into Australia from sources other than Papua and New
Guinea to each importer who obtains a certain percentage of his total
requirements from the Territory. The government does not itself
245 purchasecoffee but when the Higaturu Local Government Council was
474 formed one of its initial functions was to operate a cooperative for
the purchase, processing and exporting of locally grown coffee. Later
[651] (in 1962), the Council withdrew from this activity and an independent
Orokaiva Coffee Growers Society was formed. The reason for the Council's
withdrawal was advice from the government which felt uneasy about local
bodies engaging in commerical activities. The effect of the setting
up of the cooperative has been that service is now no longer given to
all growers but to all who have bought shares as an entrance fee and
become members of the cooperative. This fee was initially $4 but is
constantly rising until in 1966 it reached $20. Some non-members sold
[439] their coffee to the Chinese for a lower price; others sold through
kinsmen who were members, and did not always receive the full proceeds.
The government keeps an eye on the operations of the cooperative; in
any case, it seemed well enough conducted. Until end 1966, the cooperat
depended on the government for transport: the buyer who visited villag
each month to collect and pay for the coffee travelled on a government
truck. It is now buying trucks of its own. The nearest pick-up
point for Sivepe coffee was Garombi, one mile away; the nearest pick-up
point for Inonda coffee was likewise one mile away, at Ajoro.

The government also assists agriculture through its research
654 activities conducted in various experimental stations in the Territory
242 which specialise in rubber, coffee and other relevant crops. A
resources survey has been made of large parts of the Northern District,
including the Oro-Bay--Kumusi River region with which we are concerned
here. A programme for the improvement of Robusta coffee is on the way,

755 medicine, though by no means always. Bandages were especially popular;
they were worn as status symbols and as dancing ornaments. Nurses and
752 physicians are regarded with affection; any person who obviously wants
to be helpful would be treated thus, and it has of course been noticed
554 that they relieve a great deal of discomfort even though Western
theories of the causation of disease are treated sceptically and mostly
753 explained away because the nurses and physicians usually do not understand
the fine points of sorcery; only the Orokaiva have this knowledge.

Data on the eruption period do not suggest that the attitude
731 to medicine was different then to what it is today. There were,
743 however, fewer facilities: the hospitals were smaller, there was
less available transport to reach them with, the chain of aid posts
built by the Higaturu Council did not yet exist, so that outside the
government hospital, the only facilities were the mission stations.

The evacuation camps provided a good opportunity to put a
744 public health programme into operation, and this opportunity was taken.
No regular anti-malarial preventive treatment was given because this
clearly could not have been continued after the camps were closed--
and it was feared that anti-malarials might lower natural resistance.
On the other hand, everyone at Ilimo was given prophylactic treatment
against hookworm. Unfortunately, this medicine had the effect of
"making people feel a little drunk." One man, the sole male survivor
of a large family killed during the eruption, went berserk through the
medicine and caused a near riot. Mr. Kaad then abandoned his campaign
against hookworm at Ilimo, reviving it later, in the Saiho period.
Prophylactic treatment against hookworm has not been continued because
reinfection constantly occurs. The camps provided a practical object
lesson on the Western ideas of treating waste matters, sanitation and
water supplies, a lesson which no doubt bore fruit some years later,
when the Higaturu Council had money and an ideological base for bringing
[242] about such innovations. Finally, the introduction of sweet potatoes
at Ilimo, by means of distribution of sample tubers and seeds and the
[146] teaching of methods of cultivation, had a definite public health
objective: it was done because the yellow and red varieties of sweet
potato are particularly rich in vitamins in which Orokaiva diet is
supposed to be often deficient. Today, some of this sweet potato is
grown in Sivepe, though on a small scale, while plantings in Inonda
are somewhat more extensive. (The sweet potatoes resist drought better
than taro.)

The most active public health programmes I saw in 1966-67 were directed at: malaria control, infant health, village hygiene. The key figure in public health improvement at Sivepe was the health inspector employed by the Higaturu Coincil. This man was expected to cover the whole of the Council area, and spent much of his time touring villages. As his home was at Garombi and he had many relatives in Sivepe, he made frequent visits. Sivepe caused him little trouble, he told me, as waste matter was thrown into deep holes, everyone had a lavatory and the place was kept clean in the prescribed way. On

CHAPTER VII: Mission Welfare Efforts

Section 1: Mission and Community

797 The mission at Sasembata formed a kind of community of its own.
From the ground plan of the mission station (Map XI)A it will be seen
361 that it differs somewhat from a village layout. In order to grasp
its essentially Orokaiva nature, I shall have to compare the station
with others I saw: at Hohorita, at Waseta, Isivita, etc. The Church
and cross always occupy a central position. The houses at Hohorita
and most other stations are in two facing rows, just as in an Orokaiva
village, but at Sasembata the central field is so wide that this did
not develop. The position of the church in the centre rather reminded
me of the position in which Orokaiva build their feast houses; these
are always in the central space facing away from Mount Lamington with
a sizeable open area in front. The houses tend to be a little bigger
than those in the villages. Since the craze for timber houses started,
the mission lost no time in replacing its own teachers' houses with
timber ones. Materials for these were always supplied by villagers.

875 It was traditional for villagers also to supply teachers with
land for growing taro. At Sasembata, the mission found it hard to
425 get this land; it would be lent from year to year, but never, as the
797 head teacher would have liked, on a permanent basis. The Papuan
priest was rather put out over this and talked about leaving, for that
reason. This difficulty over land was not, as the head teacher
supposed, a sign of meanness, but rather of the continuing power
struggle between people and mission.

797 This power struggle is best understood as a variant of the kind
of rivalry that exists between any two villages, except that the mission
station was a village of a special kind. Between the time it was
first founded (in 1945) and the eruption, the staff was entirely
[731] Papuan. The eruption led to no defection but to a strengthening of
the bonds between church and people, partly because of the Orokaiva
[784] interpretation of the disaster (which emphasized the powers of the
Christian God) and partly because of the interpretation of mission
operations in the affected areas. After 1951, the station and the
school were much enlarged, and a European head teacher and a European
nurse were assigned to Sasembata. These white missionaries would
negotiate directly with the village men and obtain what help they
needed--labour, materials, land--in exchange for their educational,
medical and religious services. In 1955, a Papuan priest was
attached to Sasembata. He gradually gathered round him a number of
teachers from his own language area (the coastal Motu language) and

A [See Cat. 116, p. End Map 10--Analyst]

CHAPTER VIII: Selection of Emigrants

At the time of the eruption, the whole of the population fled
731 from the volcano; those who wished to stay behind were persuaded to
leave by village constables when the area surrounding the mountain was
declared "restricted" by regulation. The whole of this population, of
the affected villages was placed in evacuation camps and, in general,
it was again the total population of the pre-eruption villages that
was transferred to the resettlement villages established in and after
May, 1951.

Recruitment to these villages was therefore non-selective and
621 by government order. The amount of land available at the new location
and the clan affiliation of the groups relocated were the main criterion
657 in allocating particular groups to specific resettlement villages. The
allocation was done by a government officer who took into account the
preferences expressed by community leaders as between the alternative
resettlement villages available. It is hard to say at this stage just
how much self-selection occurred, but the evidence suggests that in
1951 there was a very limited amount of self-selection. The situation
in the camps was a very disturbed one. Undoubtedly, when two groups
joined together and told Mr. Kaad that they wished to form a village
together, Mr. Kaad would agree to this, but a heavy burden of decision
fell on the government. After 1951, a good number of relocated groups
founded new resettlement villages, mostly with prior government permission.
In these later settlements, self-selection played an important part.

When self-selection of resettlement sites occurred, the following
361 were among the reasons for choice, as is demonstrated from evidence at
[628] Sivepe and Hohorita: proximity to land to which the group has good
title; greatest possible distance from hostile groups from which
aggression and sorcery may be feared; closeness to groups with which
a historical connection exists. The Hohorita people, though from a
wide range of clans, all have their origin in a fairly compact cluster
of Sangara villages. This has kept them together as a reasonably
solidary village. In Sivepe, we witnessed the exodus from Awala,
because of land problems; the exodus from Pamba, because of troubles
with neighbouring Kongohambo, to a place one mile removed; and more
recently, the exodus of small groups from Binduta and Garombi, in
both cases on the basis of historical affiliation. In the case of the
Binduta families, this was an agnatic or clan linkage; in the case of
Garombi, the links are far more complex and will be discussed under
the heading of "Internal Influences."

The village group was the organisational unit of settlement.
621 No larger cohesive group exists among the Orokaiva, though some
resettlement village groups were much larger than pre-eruption ones.

361 bende--"side" of a village. The term da is applied to the total set
of houses built in a single jungle clearing. The layout of a da
621 usually resembles that given in Maps V-VIII.[A] There is an empty space
in the centre, which is faced by houses, usually arranged in something
like parallel rows. The centre is called araha,. In the traditional
[364] village there is an area, immediately surrounding the da which is
given over to sorcery and where the rubbish is thrown. This is called
leapa, a word also meaning "small" and it is indeed only a narrow
strip, outside which the village gardens begin. The word da is applied
equally to a large village and to a settlement of two or three houses,
as long as it has the features mentioned. The house or bende, if it
is a permanent dwelling, is part of a da and mostly is placed on one
of the two sides or rows (bende), though as the village plans show,
houses are also built to complete the rectangle.

The ridgepole of a house tends to be erected along the line
361 made by the row or bende. The floor plan is rectangular, as shown in
342 Diagram XII.[B] The long side of the rectangle faces the araha and the
door is usually in front in the centre. The house tends to be divided
into two halves, a front half and a back half, the division being a
wall built directly below the ridgepole. The front half tends to be
a space where people sit and talk and where visitors come in the
evenings, while the back half, containing the sleeping rooms, is
rather more private and not usually for visitors. The back portion is
often divided into two separate rooms. I have already referred briefly
to some buildings that are not residences: the small ceremonial meeting
places that are called arara in Sivepe, jataka in Hohorita or by either
name in Inonda; the lavatories, the chickencoops (very often, indeed,
the same structure); the feasthouses and visitors' sun shelters, which
are temporary; and the women's club houses which are a novelty. None
of these are usually placed in the regular rows, though sometimes
meeting places are built next to the house of the owner.

Villages are rather compact, the houses being built at a
361 distance of nine yards, and this distance is precisely measured in the
[177] Australian spirit of military regularity. Everyone is always within
easy shouting distance of everyone else; nothing in the village goes
unheard, unobserved. The two "sides" are under constant observation
of one another. Movement between the houses of one side is much less
conspicuous, however, than the act of crossing the araha to go to
the other side. One never does this unless one has a serious reason.
Movement between houses of the same side occurs continuously for
ordinary gossip.

Inonda formed one da after some battles early in the century
361 (Crocombe and Hogbin, 1963: 14-15); at the time of the eruption there
was one da with 48 people and the village stayed together, with a slight
731 decline in population (to 45 in 1962 and 41 in 1967) and a decline in
628 the number of houses from 12 in 1950 to eight in 1962 and seven in
1967. When the Sewa people joined Inonda after the eruption, they did
not actually, according to informants, live in the same village as the

A [See Cat. 116, pp. End Map 5-End Map 7--Analyst]
B [See Cat. 116, pp. End Map 11(A)-End Map 11(B)--Analyst]

361 Inonda people. They built a da of their own at a very short distance
from Inonda; both these da were very close to the airstrip and
731 abandoned now. Although these two da were less than a hundred yeards
628 apart, they were still two socially distinct units. It sometimes
happens, as in the case of Hohorita, to which I shall return, that
two such contiguous villages are later joined together into a single
one, but this is a deliberate act, involving the slashing down of the
intervening brushwood and, ideally, also the removal of houses which
would run through the centre of the combined village. If Sewa people
had taken up permanent residence in Inonda, such fusion would have
occurred, no doubt, but instead they went back to their own land.

621 Sivepe, with its present composition, goes back in time no
further than about 1948 when the village Pamba was built, combining
361 an older Sive and a now defunct village Pusahambo. The census list
current at the time of the eruption still shows the population of the
[162] two villages separately, though in fact they had already fused.
(Sive 58, Pusahambo 41) I do not know how many residential units there
were then, but in Old Sivepe, in 1962, 23 were counted, plus one
belonging to the anthropologist. At that time, the population was
120. When I arrived in Sivepe, the new village was only partly
completed. Some people lived in new houses; some had not yet built
or finished their new houses, but had shifted their old houses from
the old to the new village. Others again were still domiciled in the
old village, but had declared their intention to start building in the
new one "soon." At the time of my arrival, six of the houses in the
old village were still inhabited; nine months later, this number had
dropped to three, two of the houses being inhabited by widows living
alone, while the head of the sole remaining family had almost completed
[231] his house in the new village. At the time of my arrival, a good number
of the village pigs were still being kept in the old village (these
animals being rigorously barred from the new one) but by the end of
my stay, these pigs had all gone to the bush. New Sivepe, at that
time, had 25 dwelling units, plus the one rapidly nearing completion.
The total number of dwelling units included in the study (28) accommodated
137 people. There was occasional discussion of further increments in
the population, as families from Garombi were considering moving in
and would have been welcomed.

361 At no time since the eruption did Sivepe exhibit rigorously the
village plan that was regarded as ideal. In Old Sivepe 18 out of 23
houses were arranged around the araha in standard fashion, while another
five houses had been built outside the village proper, along the old
[426] jeep road, separated from the rest of the village by a gully. The
land on which Old Sivepe was built was lent by three individuals from
different kinship groups; residents chose their house site irrespective
[423] of their possible ownership of land on the village site. On the other
hand, the five houses built outside the village proper were all on
land owned by the residents. Though some of these houses were as
much as four chains away from the village proper, they were still

614 affiliations has changed. In 1962, when Rimoldi did his survey of the
621 community, not a single Sorovi family had arrived. Moreover, he
showed four residences and one bachelor's house as attached to the
Timumu clan, a clan name that was not quoted to me. The same families
still inhabit Sivepe (except for one old man who died) but they now
call themselves Jegase. (This fusion between Jegase and Timumu
occurred, to my knowledge, only between the Sivepe local clan groups.)
In 1962, Jegase had eight residences and one bachelor's house, so that
the overall pattern in these four years has remained much the same
except for the fusion of the clans. Bachelors of the enlarged Jegase
clan shared one bachelors' house in 1967, seeing that the clans had
[731] been joined. The major change between the time of the eruption and
1962 was the migration of three families from Binduta to Sivepe, all
classified as Jegase in 1962. Just as it was possible to change the
clan name of the entire Timumu group by a simple decision of the two
local clan groups, so also it was possible to change the clan name
of individuals simply as a way of emphasising common loyalties which
developed out of a combination of cognatic links and contingent
circumstances. (This pattern is characteristic of New Guinea patrilineal
clans in many areas and has been discussed recently in an
excellent paper by J. A. Barnes, 1967.)

One striking characteristic of the village layout of New Sivepe
361 is that all the Seho houses are grouped together on the same benda
614 while the other benda of the main village is entirely made up of
Jegase houses. Sorovi, the clan which migrated to Sivepe from Garombi
616 shortly before my arrival, has mainly settled along the brow of the
hill behind the village, probably partly because that area happens to
be owned by a Sorovi man (who continued to live in Garombi), so that
in case of a quarrel, nobody could question their right to build on
that land. The other houses on the brow of the hill were built by
Jegase people who preferred to keep out of the regular two-line
system. People often talked about their intention to build all the
houses along the two regular lines eventually.

The basic structural feature of New Sivepe was this dualism,
expressed in the division between two "sides" each comprising one clan.
This kind of village plan has been studied in much detail by Lévi-Strauss
[582] under the term "diametric structure" (1958: 150). An essential part
of this structure is that each side is exogamous but that the two
[601] sides intermarry with one another. It is thus in Sivepe where people
living along the same side address each other always by consanguineal
kin terms whereas people living on the opposite side tend to be addressed
by affinal terms, with the obvious exceptions. The reserve and
formality observed when people cross the araha to go to the other side
is easily explained when it is remembered that on the other side they
will meet affines.

It will be noted that this pattern is very much less clearly
discernible in Old Sivepe where the two-clan system was not yet worked
out. On the other hand, I have found it in several other resettlement

177 It is always the individuals who have travelled who are responsible
for innovations either by setting a personal example or by persuading
the community.

I have not yet referred to the deepest acculturative influence
657 that was absorbed before the time of the eruption, namely the abolition
177 of inter-village warfare. Pacification had effects in all aspects of
culture: the kinship system, economic, religion, politics. It would
take a full monograph to trace these manifold effects satisfactorily.
The other major change of the early colonisation period, the introduction
of steel tools, was the subject of a recent book by Salisbury. I
have already pointed out that Waddell does not accept for the Orokaiva
Salisbury's thesis that the introduction of steel tools liberated a
vast amount of leisure time thus bringing many luxuries within reach
of the people. Waddell points out that the time now spent on cash
cropping is about equal to the time gained by the use of steel tools.

It is useful, however, to consider more broadly what have been
the effects of, not only the technological changes, but also the
political and ideological ones. By 1951, the Orokaiva had learned
and--in the ward of the 40's--rediscovered the magnitude of white power
and the need to respect it. They had also learned how vast were the
resources of white power and to what extent some of these resources
could suddenly become available to the Orokaiva, as happened during
the American army operations. They had seen that congenial relations
with white people were possible in certain circumstances, as during the
[556] war. The acquisition of wealth and power comparable to that of the
white people had become a generally recognised objective. Only the
[484] means by which this end could be achieved were still obscure. The
Orokaiva therefore began to value highly any opportunity to travel,
to observe the white man and his ways and those who had travelled
were accepted in the village as persons knowledgeable as to the means
of pursuing wealth and power.

Developments since 1951 provided increasing opportunities for
● [731] gathering this knowledge. The evacuation camps and resettlement
villages provided precisely the kind of experience for which the
Orokaiva had been searching. If the eruption had occurred two decades
earlier, the response to European relief measure would not have been
so prompt and cooperative. Somehow the experiences of the 1940's,
with the rapid influx of foreign goods, the opening up of employment
opportunities after the war, the establishment of numerous village
schools had made the Australian rulers appear less threatening and
stimulated a desire for further contact which was apparent in Orokaiva
reactions to Australian post-eruption policies.

CHAPTER V: Familiarity with New Homeland

648 In spite of the pax Australiana, Orokaiva still view with some apprehension visits to villages of traditional enemies, if friendship has not been explicitly established between visitors and host village. In 1951, this feeling of apprehension was even stronger than today. I [609] was told that in pre-contact times a man would be extremely rash to visit a village where he was unknown as he might well be killed. Even then, however, it was sufficient protection if a visitor was able to ask by name for a kinsman or friend resident in that village. This person would then take the visitor under his protection and he would come to no harm in the host village.

A story about a football match held in Sangara shortly before 648 721 the eruption demonstrates the dangers that existed even then. A Sangara team had visited a village in the Gona district and had defeated its hosts at football. On the way back home, a member of the team fell ill and died from blood poisoning. The Sangara people attributed the death to sorcery by the defeated village. When shortly afterwards this village visited Sangara to play the return match, the Sangara came to the football field armed with hidden knives, guns and pineapple clubs, intending to kill their guests. A bloodbath was avoided only by a thunderstorm during which the match was cancelled.

In these circumstances, it is understandable that the Sangara 731 609 and Isivita people were unhappy about their evacuation to camps in the coastal region after the eruption. It was not, of course, the specific instance just quoted that made them uneasy but a general apprehension of danger. Certainly, deaths and illness occurring in these camps were very liable to be ascribed to sorcery. This is no doubt one reason why the government lost no time in closing the coastal camps down and bringing the inhabitants back inland, placing them in temporary accommodation in Popondetta end April, even before permanent resettlement villages for Sangara could be planned.

648 The camp at Ilimo did not create the same kind of worry, as Orokaiva has no reason to fear sorcery on the part of the Ilimo people. The Sivepe people feared no harm from Ilimo because two Sivepe families had friendly and kinship relations there, while there was no history of hostility between the two places. Ilimo, furthermore, was near some European plantations where people of Sasembata district at times found employment. While the Sivepe people were in the camp, they were on visiting terms with the village people. It is important to realise that the pivot of the friendly relations between these two villages were a small number of individuals who were linked by formal bonds. Of the two bonds, one was affinal while the other was a friendship bond based on contact between a Sivepe plantation worker and Ilimo village people.

657 177 such as his threat to chain some recalcitants to corpses they had refused to bury, never entered his official despatches; other exploits led to a series of inquiries and finally to his being edged out of the service.

While Monckton's methods were never practised again by senior officers in the Northern District, the tendency for the field men to become involved with Orokaiva ways of thought and thus incur the displeasure of Port Moresby has persisted. The Higaturu Council's land registration scheme, dreamed up by Popondetta public servants, is a case of that tendency. In this case land title deeds were issued which had no validity in law but which the district commissioner would protect with his strong right arm, much as Monckton would have done most efficiently. The arrangement was repudiated by higher authority in Port Moresby. Very often relationships between white employers and Orokaiva exist on two levels: an official level where wages are paid for work done and an unofficial level where the Orokaiva receives some small extra gifts and rewards his employer with some special loyalty. These "buckshees" are a regular pattern for which some allowance is made when calculating labour costs.

657 731 [466] A second and completely different type of expatriate was Mr. Kaad, who was in charge of the Ilimo evacuation camp. He neither relied on threats of dire punishment nor on the Orokaiva system of exchange bargaining. He came to the Territory in 1942 with the Army and stayed to become a patrol officer. He was soon seconded with the Department of Labour. It became his task to educate expatriate employers whose methods of treating their labour conflicted with the government's plan of improving relations between Australia and the Papuans. In particular his task was to advocate better methods of labour control than corporal punishment which had been extremely prevalent. Orokaiva informants told me that in fact corporal punishment on plantations ceased after the second world war. Mr. Kaad later became an Assistant District Officer. At the time of the eruption he had just come back from leave to move to a new post, when he was chosen for the delicate job of looking after the evacuation camp.

His task at Ilimo, as he saw it, was to help the recovery of people who "had their world shattered." He was greatly in sympathy with the new policy of promoting Papuan economic development and tried hard to make the resettlement villages he set up into foci for development. At the same time he was always flexible and ready to place the interests of recovery from shock above the interests of reorganisation. Shortly after, he was crippled in an accident. In 1967, he was teaching at the School for Pacific Administration in Sydney, training future generations of patrol officers in techniques of social and economic development which he practised before he knew them theoretically.

657 177 Most of the other expatriates who had dealings with Sivepe and Inonda moved quickly into anonymity. The roles played by a succession of government and mission servants were undoubtedly key roles, but their contact with the particular villages was too casual for their

CHAPTER X: Esprit de Corps

621 731 The problem of developing group consciousness in a new village, created by aggregating the population from several villages in one place, is a very considerable one under Orokaiva conditions. Each village group tends to be a tight unit and it is a long time before a feeling of unity will develop between the groups thus thrown together. In a place such as Hohorita, which consists of the remnants of about 12 villages, the creation of an *esprit de crops* (in Linton's sense, 1936: 92-94) is a lengthy and hazardous business.

I was able to observe the same situation in Sivepe in 1966, though on a much smaller scale. Sivepe, as I mentioned before, consisted of a core of people who lived in Pamba before the eruption and two groups who arrived since, one from Binduta in 1956 and one from Garombi in 1966. The extent to which these groups have been "integrated" into the village will appear at once if one looks at the spatial [361] arrangement of the village. As I pointed out, the ideal plan of this village was an arrangement of two parallel facing rows. Now all the long-established families, with one exception, followed this plan, but none of the new arrivals did. The Garombi arrivals built on a piece of land just above the village, on land owned by a Sorovi man who stayed behind in G rombi. The Binduta arrivals built next to the Garombi ones, on attractive sites overlooking the rest of the village. None of them followed the house plan decided upon by the rest. Thus they gave all the appearance of a group apart, and the symbolic significance of such behaviour would never be lost upon the Orokaiva. When asked about this arrangement, people would describe it to me as temporary.

621 [431] In the daily presentations of food between residences, these families would most often send food to one another, rather than to other families in the village, but this was natural, as their own mutual ties were closest. At the same time, I recorded a reasonable number of gifts travelling from the top of the hill down to the village and conversely; there was certainly no rigid separation there. A number of kinship and friendship ties existed between the new arrivals and the older families; these ties were fostered by regular exchange [578] presentations of one sort or another. I have referred to one conflict between a Garombi arrival and a woman from the centre of the village. This was an isolated case, as there was no sign of conflict between the groups, nor did this flare-up lead to continued bad relations. One could say that an esprit de crops was gradually forming, and that the merger looked satisfactory.

621 684 On the other hand, the hazards were obvious when one looked at the settlers from Binduta. When conflict developed, as in the attempted rape case, the man from Binduta was in a weak position.

CHAPTER XI: Epilogue--The Case of Hohorita

Section 1: Comparison Between Resettlement of Sivepe and Hohorita

731 123 My subject of study obliged me, both in Sivepe and Inonda, to inquire repeatedly into the state of affairs in 1951. My informants showed only limited interest in this line of inquiry. Robert, in Sivepe, even began to tease me by composing a song about what he considered to be an oddity of mine; every second line in this song (which he improvised as we walked along the road) began with the words "iji tiri pejetei" (the time when the volcano blew up)--I knew that from that time onwards I could never use this phrase without looking a little ridiculous. Such levity would have been unthinkable in Hohorita. For most Hohorita people, the time of the eruption marked the death of some, or many, of their closest relatives.

In the files of the Department of District Administration I 731 saw the official estimate of indigenous casualties in the eruption (Table 1).[A] [165] The toll of the dead from the Sangara tribe was evidently established by taking the total resident population of the Sangara group of villages (1964) and subtracting from that total, 170 known Sangara survivors. To these figures, 800 "Andemba dead" must be added as these were also Sangara. According to these figures, 94% of all Sangara died in the eruption. I have already pointed out that most of the survivors either came from villages lying at the boundary of the devastation area or happened to be away from home when the disaster occurred. They escaped to Cape Killerton, were placed in an evacuation camp at Oro Bay, shifted to Popondetta and in May, 1951, were able to settle at the Northern edge of Sangara territory, in a village called Irihambo where they found themselves under the close personal care [illegible] Bishop Hand who encouraged them to build a fine new church. The Bishop's purpose, as he explained to me, was to give this minute remnant of the powerful Sangara tribe a sense of community, some hope in life. [621] It was the people who chose the site for the village; the Bishop hoped that later on, it could become a centre for cocoa production as climate [361] and soil suits this crop very well. At that time, neither the people nor the government seemed aware that the land occupied by the Sangara [425] was no longer in law their property.

The whole block North of Irihambo as well as East of it had been bought by the Crown around 1910, with the intention of encouraging 425 sugar plantations there, but this plan was stopped by sugar interests in Australia. In the middle 1950's, a new plan arose to use this 657 extremely fertile area for cocoa plantations. Most of it was settled in 1959 by Australian ex-servicemen, financed by a Credit Board (Howlett, 1965). As this plan was in its initial stages, it was discovered that the Sangara people were on the land and, in law, were

[A] [See Cat. 116, p. 205--Analyst]

425 trespassing there. Bishop David recalled, in my interview with him,
how amazed the people were that the land was no longer theirs: "What
657 is this business of our land being sold? Our fathers sold it; we
should be able to get it back." In spite of the Bishop's protests,
the people had to leave their new village. They then moved about two
[361] miles closer to the mountain and to the centre of their traditional
land holdings and chose the site of Hohorita. (The Irihambo village
used not only Crown land but also the land of a planter, Mr. C. E.
Searle, who tells me he never objected to the presence of the village.
The situation is illustrated on Map XIII.)[A]

The shift from Irihambo was a gradual process, during which
361 several groups set up new villages independently. Today, the population
657 of Irihambo is dispersed over six locations: first, two large villages,
one behind the other, which have now virtually fused into one and
together are known as Hohorita; immediately to the side of this, a
mission station, with a church built of bush materials, similar to the
one at Sasembata, but not of the superior standard achieved at Irihambo;
finally three smaller breakaway villages, called Sombou, Kakita and--
again--Irihambo. Though Hohorita people today are not ready to admit
it, they must have been very angry when they were told their Irihambo
land was to be occupied by white ex-servicemen. They pulled down the
beautiful church at Irihambo, much to the Bishop's chagrin.

Under the impact of the Higaturu Local Government Council,
Hohorita nonetheless gradually assumed the character of the other
modern resettlement villages; by June, 1967, the biggest of the breakaway
groups had joined the main village, which no longer looked like two
separate units but had been spatially integrated; the houses were
being aligned and modernised; in other more fundamental respects the
[177] Sangara people had become rather rapidly acculturated. By the criteria
used in the present study, acculturation had progressed rather more
rapidly than at Sivepe, though also more unevenly. In many respects,
[731] Hohorita had more difficult problems to surmount than Sivepe: the
death toll had left the tribe virtually leaderless; the resettlement
village was made up of the survivors of a dozen villages or more, which
made it rather heterogeneous; land titles were far more confused than
before the eruption; the establishment of an esprit de corps required
the forgetting of deep traditional intervillage antagonisms; a deep
sense of insecurity had been caused, first by the disaster and the
deaths and later, probably, to some extent by the failure of settlement
at Irihambo.

It was the general hypothesis of this comparative study of ten
731 displaced communities in the Pacific that displacement would lead to
accelerated culture change in some directions. This hypothesis was
177 tested by using, in each case, a control community, similar to the
relocated community but lacking the experience of relocation. In the
[121] case analysed in the present report, the experience of displacement at
Sivepe was comparatively mild in that the people soon returned to their
traditional land holdings and formed a village identical in personnel

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A[See Cat. 116, p. End Map 12--Analyst]

731 to the pre-eruption village. Furthermore, the control community
differed in minor ways from Sivepe both in ecology and in traditional
177 social structure. Certainly this report has pinpointed a number of
differences in the acculturation history of Inonda and Sivepe; it has
probably been rather less successful in determining whether these
differences are due to the displacement experience (and subsequent
government and mission initiatives) or to the ecological and cultural
differences which existed between the two communities at the time of
the eruption, and which were further accentuated when Popondetta
became the administrative centre, thus placing Inonda appreciably
closer to the centre than Sivepe.

121 I made a study of Hohorita because I felt it would perhaps provide more cogent evidence. Here resettlement followed a cataclysm during which over 90% of the population died; furthermore, the ecology and culture of Sangara was very close indeed to that of Sivepe. I was struck, during my study of Hohorita, by the evidence of far more rapid acculturational changes than I found at Sivepe. Hohorita, to put it briefly, produced more intellectuals and also more coffee than other communities that had been less afflicted. This seems to suggest I might have done better to take Sivepe and Hohorita as my sample communities, as I would have been able to show more striking differences in spite of greater ecological and cultural similarities. I rejected this idea because my study would then have been methodologically anomalous in the framework of the total project in which the nine other investigators had used a different research strategy.

Nonetheless, the study of Hohorita is of very special anthropological importance as it shows strikingly how a primitive community reacts and adjusts to a cataclysm. The fact that the presence of the Australian government and mission provided the community with some additional adjustment opportunities hardly detracts from the interest of the case. It is impossible to do justice to the subject in this epilogue. Not only would this take too much space, but the time pressure under which this report is compiled also makes it impossible. As Hohorita has a population of 348, the genealogies, lists of educational, occupational, residential data, the statistical evidence of the inter-village relationships are all most complex and will need to be analysed out of 650 pages of field notes. These notes are at present no more than lists of names related to individual families. All I can do here is to give my own preliminary impressions of the material, coupled with general descriptive data. Nonetheless, I hope that I can thus show some of my findings from Sivepe in a broader setting and draw attention to a few basic issues.

Section 2: Physical Environment

The present territory of Hohorita stretches from near Mount
131 Lamington (an elevation about equal to that of Sivepe) down to Double
133 Crossing, which is about 600 feet above sea level. Rainfall at the
top of the territory may be close to that of Sivepe, but further down
132 it decreases--though I doubt whether it would fall much below 150 inches
per year anywhere on Sangara territory. The land yielded much the same
wild and cultivated crops as in Sivepe. Before the eruption, the
361 concentration of population was entirely at the higher reaches of this
territory, while the lower parts were used for hunting and other
subsidiary activities. Those who survived the eruption because they
were away from their villages were often hunting on this lower land.
Today, the pattern of occupation has shifted. The lower part of the
territory, near the new villages, is intensively used while the more
elevated land is used a little less and often for coffee rather than
subsistence crops.

● 731 The eruption has made minor changes to land contours: due to
the floods, the watershed of the Ambogo River was gouged out forming a
number of pools of stagnant water which formed a breeding ground
for mosquitoes and leeches. These pests are blamed on the eruption by
the local people. On the credit side, certain varieties of bananas
and pumpkins, planted before the eruption, had the opportunity to
grow wild during the year the land was unoccupied and are now thought
of as having been brought to the district by the eruption.

162 The total Sangara population today would be about 472--of which
350 live in Hohorita and the rest in the three other villages. The
161 total land holdings of this population extend over 3.5 square miles--
an average of about 135 per square mile. This places the Sangara in
a somewhat superior economic position to Sivepe, which has to support
at least 180 persons per square mile on land of the same quality. It
must be remembered that prior to the eruption, the Sangara population
was six times as large as it is today--so that Sangara must have
suffered a chronic land shortage. All the neighbours of the Sangara
are agreed that they were very warlike and dangerous enemies; they
probably were in frequent need of extra gardening land. Today, they
have enough land not only for subsistence gardening but also for a
somewhat larger cash-cropping programme than is generally found in the
Sasembata district.

The present site of Hohorita (see Map XIV)[A] developed in several
621 stages. First the Horeopa clan, which had the greatest number of
361 survivors and therefore achieved dominance, shifted to the front part
of Hohorita village in 1956. The mission station was established
next to the village, separated from the village by a small stream.
By 1958, all the Horeopa were settled in houses in the new village,
together with the Oripa clan whom they had asked to join them while
all the other inhabitants of Irihambo had shifted to the new mission

[A] [See Cat. 116, p. End Map 13--Analyst]

Section 3: Social Environment

619 In discussing the Waseta "tribe" I suggested that its boundaries
would be hard to establish and that it gave little evidence of any
[197] sense of unity. The case of Sangara is somewhat different; first of
all, Sangara speaks a dialect of its own that is easily distinguishable
from that of other areas. Secondly, a Sangara man is able, if he is
knowledgeable enough, to list some 27 villages which formed a loose
military alliance, and between which raids and organised ward did not
[582] occur. These 27 villages formed at the same time an area within which
intermarriage would regularly occur. The present population of Hohorita
and the adjunct villages is drawn entirely from this alliance. (The
number 27 is probably an underestimate.)

621 Since the government made Sangara the centre of the Northern
District immediately after the war, patrols were active in the Sangara
[659] district to amalgamate villages. A number of the people now living in
Hohorita report that they came from such consolidated villages, such
as Tunana, which absorbed three neighbouring villages just before the
eruption. Informants say that the clusters of villages joined together
in this way had always been closely related. The population of Hohorita
is more diverse. I was at first told that it was composed of households
of four clans (Horeopa, Oripa, Besupa and Sehopa), the first two clans
being in the front village and the last two in the back village. A
house-to-house census revealed representatives of a further eight
clans, sometimes survivors of clans that had otherwise died out,
sometimes a clan more fully represented in Kakita or Sombou while two
clan names came from the Sasembata district, under circumstances to be
discussed later. Furthermore, when a number of families came from the
same clan, they were not always from the same village. While Sombou
was inhabited by the remnants of one cluster of four villages, and
Kakita by the remnants of one village, Hohorita offered a more general
hospitality to all Sangara.

621 Because of their history, the four Sangara villages built since
the eruption form a rather tight cluster, quite different from the
628 intersecting circle pattern I described for the Sasembata district.
When a person in Sombou died, the whole of Hohorita rushes to join the
wake. All four villages in the cluster do this for each other, but
[731] not for any other village. Because of the sharp drop in population,
and the way the survivors were thrown together after the disaster,
people who were previously bound together only by a very loose alliance
now behave in the same way as a small neighbourhood cluster of closely
related villages.

Meanwhile, the Sangara people are rapidly developing friendships and affinal links outside the tribe. In 1966, the front half of Hohorita gave a feast for Koipa (a large Isivita resettlement village), the back half gave a feast for Asigi, Irihambo gave a feast for Hohorita while Sombou, with the assistance of Kakita, entertained the Uhuru'undi

628 I found them elsewhere among the Orokaiva, it naturally became no
easier for the mission station to lead the village.

During the time I was at Hohorita, there was no local medical
758 service because the officer appointed by the Health Department was a
759 Sangara who insisted that a house should be built for him before he
arrived. (Orokaiva are bound by law to do such work, in payment for
[653] government services rendered.) His kinsmen at Hohorita thought that
if he wanted a house, he should build it himself. The medical, however,
was in no hurry at all to go home; he stayed at his previous post for
almost a year after he should have been transferred. Hohorita
complained to the Health authorities that they had no medical; they
found that unless they built the house, no medical would be provided
but they would have to go to Saiho for service. Finally they yielded.
This was far from being a case of anomie: it was a battle about the
status to be granted to public officials at Hohorita.

653 In Sivepe, nobody would have questioned this status; they would
have built a house at once for any public official who would have
wanted to live there. But then, such a person would be bound to be a
stranger, not a person "like themselves." When a village has produced
a dozen or so public officials of one sort or another, the question
begins to look different: what is so special about these people that
we have to build houses for them? Furthermore, once upon a time, the
Sangara working timetable was rather flexible, but with cashcropping
on the Hohorita scale, and long walking distances between home and
work, the Hohorita people were rather busy earning money from coffee.
Time had become an economic resource.

This was a frequent subject of mild argument between me and the
other expatriates. The expatriates used to complain that the Orokaiva
were no longer willing to do any work (i.e., perform free services
such as I am now discussing). They thought that if the Orokaiva were
to advance economically, they would need to work much harder. I
used to tease the other expatriates by saying that this growing reluctance
to do free work for the government (roads, houses for officials, etc.)
was evidence for the success of the economic development policy the
expatriates claimed to be promoting. They thought this to be a sick
joke.

In an earlier chapter, I already referred to an unusual fore-
173 shortening of Orokaiva history practised by Sangara informants of today.
It is certainly remarkable that, according to Sangara, the Orokaiva
only began to make feasts *after* the time of European contact, because
earlier they could not grow enough food to hold them. Statements of
this sort were made in two places (Sombou, Hohorita) by elders sitting
together in groups and instructing me. I have already explained how
such statements fit the traditional *structure* of Orokaiva history:
original time / culture established by culture heroes / present day.
As the coming of the Europeans occurred more than two generations ago,
this event would seem to have been confused with the coming of the
[731] culture heroes. When I did, in a very innocent way, express my

173 astonishment about this kind of story, I was told in explanation that
at the time of the eruption, the old people could not run away and the
731 old people all died. For this reason, old customs and old knowledge
died also; those who were left behind--the children who could run
fast enough to escape--were forced to accept the new way of life as
they knew no other.

This suggestion of an abrupt break in cultural tradition is of
course in itself mythology. The continuity was obvious enough to
the observer. Nonetheless, the belief in discontinuity was an
178 important aspect of the modern Sangara self-group image. In the eruption,
Sangara lost the people who used to make the decisions, who used to
731 set patterns of behaviour. The survivors were forced to put the pieces
[595] together as best they could. Many customs vanished on the day of the
eruption, e.g., polygyny; those customs which survive in Sivepe, however,
mostly survived to some extent in Hohorita too. But when I asked my
Hohorita informants whether father-in-law still chased his son-in-law
with a firebrand this definitely appeared to be out of fashion. For
traditional knowledge as well as custom, Sivepe was the repository of
much that Hohorita had left behind. Almost all the mythology had
been lost; the dancing was much inferior because the people were so
much busier with their coffee; on the other hand, feasting ceremonial
[764] had remained mostly intact. Burial rites were no longer as Williams
described them but very much the same as in Sivepe, i.e., the essentials
were intact but a great deal of restraint had been introduced, the body
was no longer dressed and laid out in the traditional manner and, most
important of all, the widow was no longer expected to stay with the
dead man after burial.

184 In matters of food, clothing, housing and village improvement,
tools and skills I found most of the same features as in Sivepe. The
differences I found were, to some extent, in the greater availability
of money, in the larger number of educated people, the larger number
of persons who had migrated to towns where they held skilled jobs, the
intensive contact between this educated élite outside the village and
the educated élite inside it, and as a result, as far greater awareness
of ideological and political issues than could be found in Sivepe.
Stephen, the government driver at Inonda, had a sophistication comparable
to this educated group at Hohorita, but he was alone and exchanged
ideas only when he was in Popondetta, away from the village where
wider political and ideological ideas would have aroused little interest.

Section 4: Leadership in Hohorita

622 At the time of my arrival at Hohorita, the traditional leader,
a man called Amos, had recently died. After his death, he was revered
with much ceremony. Thus, during my stay, a naterari (Williams:
1930: 226) was set up, i.e., a post to taboo the coconuts and betelnuts

731 Immediately after the eruption, the Sangara people decided to
waive all bridewealth, so that a large percentage of the women in
[583] Hohorita were married without one. At the present time, bridewealth
is reinstated, and young men go to neighbouring plantations, which are
[464] plentiful--or else further abroad--to earn them. While many husbands
worked outside Hohorita, most of them were able to return home at
[595] weekends. Polygamy was pronounced before the eruption, but it seems
that the polygamists became victims of the eruption and polygamy no
longer exists as a recognised institution.

If the average educational standard at Hohorita is slightly
871 above that of Sivepe, the reasons are: better facilities during the
years 1945-1951, loss of many members of the older age groups in the
eruption, special efforts made by Bishop Hand at Irihambo to draw
Sangara into mission teaching. This higher standard is reflected in
the statistics of persons who at one time or another have been in
skilled occupations. (Table 21).[A] The persons who returned to Hohorita
434 did so with the express idea of making some money out of coffee; the
average income from coffee in Hohorita is certainly far in excess of
that in Sivepe (about $100 per annum).

Hohorita does feel that it is held back by the present educational
871 provisions which are little better than those in Inonda and much
inferior to those at Sasembata. (At Hohorita, there is no schooling
beyond Standard 3, whereas Sasembata goes up to Standard 6.) Hohorita
people compare the school unfavourably with the government school at
the Sangara resettlement block which offers Standard 6, and which,
furthermore, has more highly qualified teachers on the staff. My
own impression was that the head teacher at Hohorita is a very good
man; some of the criticism of him is no doubt due to spite, for he is
of local origin. Still, the general criticism of facilities at
Hohorita is not unjust.

621 Hohorita is less homogeneous in ethnic origin than the other
villages discussed, as the population is drawn from different parts
563 of the Sangara tribe and intermarriage with other tribes has been
582 frequent. The explanation may be found in the pressure, after the
disaster, to find mates when most preferred potential marriage partners
had died in the eruption. This breaking down of the endogamous emphasis
after wars and disasters is, as I pointed out earlier, traditional
among the Orokaiva.

Heterogeneity was countered to some extent by an arrangement
423 which was, according to informants, made by a popular meeting shortly
591 after the eruption. According to this arrangement women who married
outside Sangara, would be allowed the same land rights as though
582 they had been sons. This was done in an effort, so I was told, to add men
to the depleted Sangara population. Men would thus be encouraged to
settle on Sangara land rather than take their Sangara wives home with
them. Two men from the Sasembata district are now living in Hohorita
under this arrangement. They keep up normal exchange relations with
their home district, e.g., I know one of them lent hambo for the kere

[A] [See Cat. 116, p. 228--Analyst]

423 dance in Sasembata. But they enjoy very much better conditions than
are usual for men who marry uxorilocally.

591 The mortality among the elderly at the time of the eruption was
582 so great that many traditional customs and myths were lost among the
Sangara with the elders who knew them. For instance, rituals carried
on at birth in Sivepe are no longer practised in Hohorita. For the
731 rest, I did not see many differences between the villages in level
of acculturation. Housing conditions in Sivepe were better; money
165 was more plentiful at Hohorita. Dances were far more carefully
practised and more expertly performed at Sivepe. Clearly, the Hohorita
177 people spent more time at their coffee; this was given as the reason
for neglect in other matters. It may well be that cash-cropping above
184 the level noted at Sivepe has necessary consequences of this sort
unless technological changes occur. Ideologically, Hohorita is--as
I demonstrated--more deeply involved with the concepts of the New
Day than Sivepe.

Though no groups have left Hohorita since it was founded, the
621 co-residence of these many clans does make for a certain instability.
The leaders of the Oripa clan group told me that just after the
614 eruption very few Oripa were left, but as the clan was becoming more
numerous, it was beginning to think to establishing its own village.
Besupa was harbouring similar thoughts. Both these clans were minority
clans in their part of the village and this inevitably implied some
subordination. In Sivepe, the fusion of Jegase and Timumu had established
a fairly equal balance with Seho, as both clan groups were about equal
in strength if the greater resources of Seho are taken into account.
In Hohorita, however, the supremacy of Horeopa (and Sehopa in the back
section of the village) could hardly be challenged. The councillor
and the government are opposed to such fission and overcapping organisations
such as the credit union, the women's club, the church, the
school, etc. may gradually set up a firm esprit de corps. The importance
of tree-crops (as opposed to shifting cultivation) in the Hohorita
economy might be a further disincentive to the migration of groups to
another village, but Oripa has in mind a new village site which would
actually be closer to their coffee gardens.

Section 6: Conclusion

In this study, we have found three complex forces, acting as
177 causes of changes, to be intertwined: forces acting throughout Papua
and New Guinea to promote socio-economic development, the effect of
the relocation of certain communities near Mount Lamington after the
eruption, and the physical and cognitive effects of the eruption itself.
The last-mentioned of these forces was far more disastrous for Sangara
731 than for the rest of the Northern District of Papua. In tracing the
causes of culture change in Hohorita, we have to give especial emphasis
177
[777]

177 to the helplessness of the survivors, the extraordinarily strong
influence that was exerted upon them immediately after the disaster
731 by Bishop Hand (resulting in many becoming mission teachers, the
building of a church of especially high quality, scrupulous school-
[797] going by the children and other signs of compliance), stronger pressure
than usual to succeed in skilled occupations, a more profound reappraisal
of ideology under the impact of disaster as well as church influence,
and finally the availability of more cash-cropping land than at
Sasembata, as a result of depletion of the population.

In Sivepe, where little loss of life occurred, the pattern of changes differs from that in Inonda, but the difference may well be largely explainable by the superior facilities introduced, especially by the mission, into the Sasembata area as a response by the Anglican authorities to the disaster.

177 The paradox of Papuan culture change is its dependence on
migration out of the rural areas. The striking changes of ideology
369 seem to result always from travel and contact between the men who have
been away and those who have stayed at home. In the district itself,
the progressives are always those with outside experience. In Hohorita,
these progressives had more varied and deeper experiences (perhaps
because the home base was destroyed) and those who were urbanised
continued constant contact with the village. Rural development has
opened up some new economic opportunities, and the improvement of
school services is opening up further opportunities, but it is only
the returning traveller who understands these opportunities and leads
his people in realising them. Relocation provides opportunities for
village renewal and these opportunities are seized upon by the natural
innovators within the villages (the returned migrants) to hasten the
coming of the New Day.

TABLE 1

CASUALTIES OF THE MOUNT LAMINGTON DISASTER

731 (Source: Department of District Administration, Popondetta, file 7.3.2)

[162] Total residential population, "Sangara" group (2195 - 195)	1964
Known East Side "Ifainembo" casualties	480
Wairope Camp, list of reported casualties	92
Commonwealth Royal Territorial Service, casualty list	90
Prisoners held at Higaturu	16
Royal Papuan Constabulary and dependents IHG	80
Andemba dead (ex Andemba, other villages and Higaturu)	800
Known Isivita dead	14
Est. dead Sangara mission station personnel	100
	3636
Less: Known Sangara survivors	170
Total Estimated Dead	3466

22: Schwimmer E-4,5 (1966-1967) 1969 OJ23 Orokaiva OJ23
Mount Lamington

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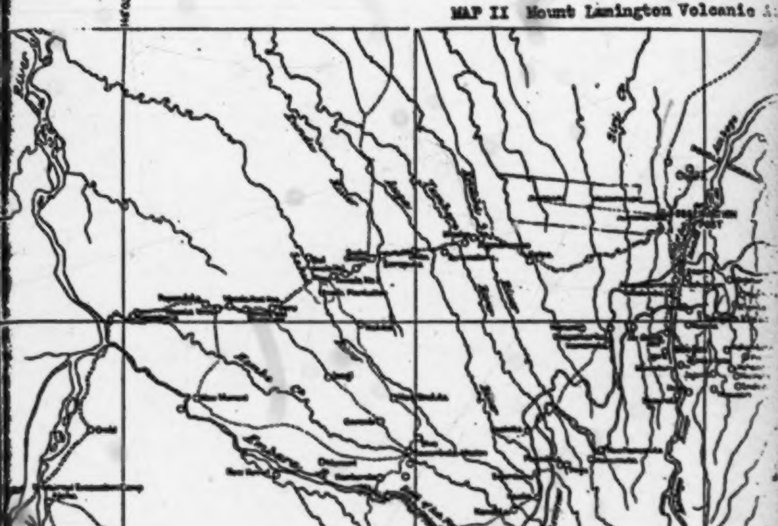
●731

MAP II Mount Lamington Volcanic

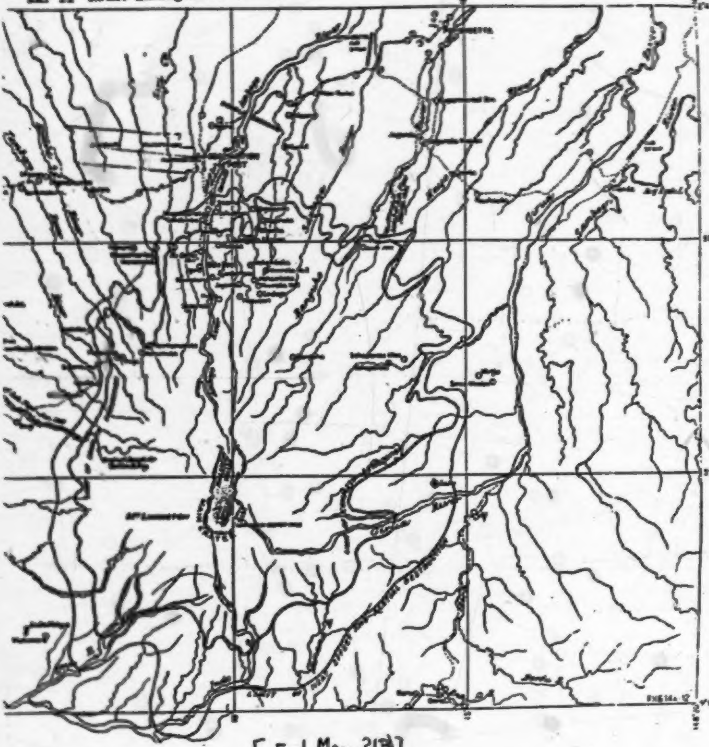

River
Kumusi
Mt LAMINGTON

Source: Taylor 1958. Fig. 52

[End Map 2(A)]

22: Schwimmer E-4,5 (1966-1967) 1969 OJ23 Orokaiva OJ23
Mount Lamington

MAP II Mount Lamington Volcanic Area



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[End Map 2(B)]

The Papuan Orokaiva Vs Mt. Lamington: Cultural Shock and Its Aftermath

Felix M. Keesing

731 What happens when people are subjected to unexpected catastrophic shock, dislocating their whole round of life and making a sudden break in cultural continuity? This occurred to some 9,000 Orokaiva in northern Papua when Mt. Lamington erupted on January 21, 1951. Some 4,000 Orokaiva and all of the approximately 50 whites at the Government and Mission stations in the main blast zone were killed. The survivors were forced to flee from ash-choked homes and gardens.

114 121 At the request of the Administrator of Papua and New Guinea, the writer and his wife visited this area some weeks after the main eruption and shortly after a second major blast. The purpose of the visit was to make a brief survey of the relief and rehabilitation operations set in motion by the Australian authorities and to give any advice possible. This area was one of the great battlegrounds of the Pacific war—the Kokoda-Buna-Oro Bay area—and since there are still a number of usable airstrips and jeeproads, it was possible to cover the emergency camps and other Government and Mission operations by plane, and then by jeep, canoe, and on foot, and to get some sense of the consequences of this catastrophe and of the problems involved.[1]

121 This paper does not purport to be based on profound knowledge of the situation for it will take a long while before its total dimensions can be properly assessed. Rather it is designed primarily to raise questions: some of theoretical significance, particularly regarding the responses of such people to cultural trauma of the first magnitude, and others from the "applied anthropology" aspect, relating to choices possible in official and mission policies in the wake of such a destructive experience.

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[657] [1] The actual field survey, covering approximately five days, was made in the company of Colonel Elliott Smith, District Commissioner in charge of relief operations, and included discussions with virtually all of the Government technical personnel, with representatives of the one Mission body operating in the area (the Anglican Mission), and through interpreters with some of the Orokaiva leaders. Discussions were held, too, with the Administrator, Colonel J. K. Murray, and other administrative personnel at the capital, Port Moresby, all of whom had been in an out of the devastated area from the beginning, and relevant official records were made available by them.

[p 16-A]

101 These so-called "mountain Orokaiva" have been described
in considerable ethnographic detail by Williams.[2] Pioneer
administrators considered them to be the most ferocious of
New Guinea peoples. No tradition exists showing familiarity
133 with vulcanism in the area, apart from one or two dubious
hints in myth incident. The nearest volcanic outbreak occurred
nearly a decade ago in the Tufi district, a considerable
distance to the southeast. Mt. Lamington (5,634 ft.) with
its irregular humps of old ash cones and its dense vegetation
cover has always been regarded as being extinct. The Orokaiva
241 worked their hamlets and gardens high up on the rich
soil of its sprawling flanks, achieving perhaps the densest
361 settlement patterns of any of the shifting "dry" cultivators
in the New Guinea area.[3] They lacked any background
● 731 conditioning to cushion the shock as did the whites who
developed a Mission station, a Government coffee plantation,
other "native" cooperative enterprises in the Sangara area,
and, during the war, a mountain rest center which became
the district headquarters at Higaturu.

133 The first eruption came on a Sunday morning after three
anxious days of earth tremors during which official and
731 Mission personnel hesitated to frighten the people by suggesting
evacuation. The eruption had the classic Mont Pele
pattern: an exploding gas cloud engulfed an area of about
eight miles in every direction and then sucked back. Hot
ash covered a very much larger area, and the rivers whose
sources are around the peak—the Kumusi, Amboga, and
others well known for bitter fighting during the war—became
choked with ash flows. The Higatura and Sangara centers
on the north side caught the full blast and were virtually
flattened, as it was this side of the mountain which blew
out. Almost 100 percent casualties occurred in the area engulfed
by the gas cloud. Since the bodies were often in good

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[113] [2] Williams, F. E., *Orokaiva Magic* (1928); *Orokaiva Society* (1930). The Orokaiva and their culture are also referred to extensively in Annual Reports of the Territory from 1890 on, particularly by Chinnery and Beaver in the 1914-15 and 1918-19 reports.

[3] Williams speaks of the Lamington slopes as "thickly populated and with innumerable garden-clearings . . . one of the most fertile and beautiful in all Papua" (*Orokaiva Magic*, p. 110).

139 731 condition, it was assumed that death occurred by either the outward blast or the inward backwash. The medical authorities made no post-mortems, however, being fully occupied with the problems of the survivors who poured out from their living sites further down the slopes, shocked, in a few cases very badly burned, and without immediate means of support.

731 [491] A main government trail from Kokoda to the coast, which was widened into a military road during the war, winds over the shoulder of Lamington on its northwest side. Almost all of the evacuees headed for this road, some going west to the Wairopi crossing of the Kumasi river, others going north toward the coast. Within two days Government relief teams were flown to the area and were operating emergency camps in these two zones. Food, medicines and other supplies were sent in by way of adjacent airfields. The seriously injured were flown out to hospital centers. The first temporary encampments were condemned by the health authorities as they were in swampy or otherwise unsuitable settings; also the fear remained that they were too close to the source of possible further eruptions. Refugees on the west side were therefore moved back to a major camp at Ilimo. Those on the north (coastal) side were taken to two camps: the "Sangara" region people to Eroro, and the "Isivita" region people to Oro Bay. Emergency district headquarters were set up near the Popendetta airstrip on the north side, with an adjacent camp to stage the people back to resettlement areas. A government vulcanologist established a crude seismological station in a somewhat protected spot within the "closed" blast zone to bring the volcano under scientific surveillance.

In the areas that were most damaged and considered to be dangerous for an indefinite period because of their proximity to the active summit, practically all the occupants were killed. Government rolls of the survivors showed only some 400 as being from these settlements. Some were chance survivors in the more marginal zones, others were laborers, police, school children, or people who were visiting at the time. In the settlements lower down the mountainside and in the adjacent foothill and valley areas, casualties were sporadic and whole groups escaped unscathed. After the first panic of scattering, therefore, local groupings were able in the main to reassemble in the regional camps with such official aid as was necessary. Stray child survivors, including some infants, were readily taken under the care of other families, some of whom had lost children. In general, each group could be dealt with through its delegated leaders. Each was given its rations in bulk to use on its own responsibility and, where possible, accommodated as a unit even under crowded emergency conditions.

133 731 A second major eruption came on March 5. New ash cone accumulated and blanketed the area, but there were no further casualties. Later that month, at the time of the writer's visit, the smoking peak had another great ash cone building up. There were minor ash eruptions in and around the crater and massive ash flows were occurring down the river courses; vegetation was burnt and water rendered unfit for use many miles into the zone of the surviving green forest and savanna. Uncertainty as to further possible

133 731 eruptions has subsequently continued, and reports as of December, 1951, show a persistence of these conditions and a recurrence of bad earth tremors. In other words the Orokaiva, Government and Mission are having to learn to live with the volcano for an indefinite period.

731 241 An observer passing through or flying over destroyed areas was struck by the fact that plants with large fleshy foliage such as taro (the staple food of the Orokaiva) and bananas tended to green over quickly. Root crops indeed sometimes showed accelerated growth, presumably through combined ash-rain fertilization, though considerable rotting set in later. Squads of men were organized to go into the more accessible areas within the blast perimeter to gather such surviving crops, though they were not permitted to stay overnight. These foodstuffs supplemented the official rations which consisted of rice, canned meat, some wheatmeal, peas, salt, sugar, and tea in generous quantity.

731 Within two months the whole situation was becoming reasonably "structured." The Government vulcanologist had defined a danger zone from eight to 12 miles around the active crater; no individual could go inside this area except with an official pass, and then only by day and for good reason. Those groups whose living sites were outside this closed area, or who could get land from relatives or others, were being allowed to resettle under conditions closely prescribed by supervising Government officers (this will be enlarged upon later in this paper). On this basis, some 2,500 persons had already left the refugee camps, though they were still being rationed to some degree. The "Sangara" people had been transported back inland from the Eroro camp to the Popendetta camp and adjacent zones within a few miles of their homes. The "Isivita" people at Oro Bay, numbering some 600, were being transported in batches of some 35 persons every other day by launch from the Oro Bay camp to Killerton, by truck to the Popendetta camp, then by small Dragon Moth plane to the Kokoda airstrip. From here they walked the approximately 20 miles to the Ilimo camp on the western side of the mountain where they had lived formerly. The Oro Bay camp was in this way closed down by May. At Ilimo, some 2,000 persons were living either in the first temporary huts such as the Orokaiva build for emergency or short-term housing, or in large newly-constructed houses of a more permanent type. (Somewhat later this camp population was reduced to about 1,500, comprised essentially of the surviving people from the west side of the mountain whose homes were in the closed-off area and who had not been able to find resettlement places outside). The Ilimo camp had a staff of some 14 white officials, aided by Papuan police and other assistants. In addition to the various welfare activities, there were schools for children and adults, sports, a community hall, and a large block of garden land broken in with tractors and other modern tools. Government was using it as an experiment in "community development" as well as a relief center.

731 657 177 [361] By that time, too, a whole series of policy problems had arisen which both the field staffs and the Australian authorities at Canberra and Port Moresby were trying to resolve. Most serious was the question of how far the crucial break with the past should be used as an opportunity to encourage

731 657 177 [361] [797] or even force Orokaiva settlement patterns from the traditional scattered hamlet system to village or even town living. Another tough question was how far Government should step in to supervise matters of economic and social welfare, including elementary schooling which hitherto policy had left almost wholly to the Anglican Mission. The majority of the mountain Orokaiva are now adherents of this Mission, the only body operating in the area. Questions relating to land tenure, social group realignment, leadership, law and order, and other matters involving local custom had also to be faced, especially in the course of the first experiments in resettlement.[4]

731 784 Officials and Mission workers reported that the explanations of the "cause" of the disaster given to them by Orokaiva, were, in general, of a supernatural nature: "God" was punishing them for "sins" such as "not supporting Mission and Government plans for development," "not building new churches as requested by the Bishop," or "not helping the Allies enough during the war." However much these may 731 152 have pleased the hearers, the fact seems to be that there were resulting strong feelings of insecurity and even of guilt in their retrospective look at the pre-eruption way of life.[5] Officials who know the Orokaiva considered that these feelings undoubtedly helped to foster the extraordinary degree of cooperation and orderliness in situations where large numbers of people were necessarily herded together and shifted around without benefit of the traditional niceties and proprieties.

121 731 178 182 This raises the whole problem of interpreting the overt events here summarized in terms of their cultural and individual contexts. In discussing theory relating to the dynamics of change and resistance to change, the writer, along with others, has referred elsewhere to the general tendency for peoples to be pre-conditioned by the characteristic sets of their culture and personality norms, to be differentially "adaptable" or responsive to change in the face of new experiences.[6] The impression gained in this case is that subject to inevitable factors of shock and disorganization, the Orokaiva were culturally predisposed to respond to the traumatic experience here described with something approaching maximum adaptability.

262 The mountain Orokaiva are shifting cultivators, and supplement their staple food, taro, with sweet potato, yam, banana and sugar cane. Flesh from domestic pigs, chickens, dogs, and wild game is what Williams calls "a dainty rather 241 than a diet." "Fresh ground," says this ethnographer, "is continually cleared for new plantings" in the typical pattern

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[113] [4] These matters are discussed particularly by C. S. Belshaw, an anthropologist working in Papua under the auspices of the Australian National University Research School of Pacific Studies, as a result of a visit to the area in April, 1951; see his "Social Consequences of the Mount Lamington Eruption," *Oceania*, 21, 4, pp. 241-252 (1951). This article was not seen until after the first draft of this paper was completed, and as the approach is considerably different the two papers are complementary rather than unduly overlapping.

[5] Belshaw, *op. cit.*, p. 242, stresses this "guilt" factor.

[113] [6] F. J. Keesing, "Some Notes on Acculturation Study," Sixth Pacific Science Congress, *Proceedings*, IV, pp. 59-63 (Berkeley, 1940); "Cultural Dynamics and Administration," Seventh Pacific Science Congress, *Proceedings*, 14 pp., mimeographed (New Zealand, 1949).

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241 of "dry" gardening, with fire and the digging stick as the
essential tools, and either long term rotation of previously
occupied areas or breaking in of new forest land. "The im-
mediate family . . . is a self sufficient unit" and "the Orokaiva
words for 'work' and 'garden' are one and the same." Con-
621 sistent with this mobile economic base, settlements are rarely
more than hamlet size, with "hardly more than a dozen
houses" on the average. Materials for housing are readily
available, so that residence can be easily shifted.

The hamlet is based normally on patrilocal-patrilineal prin-
ciples of organization, with a known strong tendency for
new groups to form by "hiving off." Clan affiliations are
[614] reckoned from quite recent ancestors, so that at times a
given clan may all be in one settlement, though more usually
scattered through several closely related settlements. The
592 generally monogamous family units are under the "immediate
621 authority of the father," while the affairs of the local living
units are under loose supervision by the hamlet and clan
622 elders, centered on a "men's house" and working together,
usually with one strong senior man as "leader." Personal
422 property consists of mobile goods such as tools and utensils,
clothing, and body ornaments.

181 In spite of ethnic similarities over a wide region, Williams
speaks of the Orokaiva as being a "more than usually quarrel-
some and disunited people"—a strong statement to make in
the New Guinea setting. Their pre-pacification history was
marked by "feuds, dispersals . . . a veritable whirlpool of
strife, migration, and counter-migration." Beaver, too, refers
to their "turbulent and restless life . . . migration was, in
[754] the main, a matter of attacking, fleeing, and pursuing." Super-
natural weapons in the form of sorcery were especially feared.
Even for Papuans, the Orokaiva proved to be unusually
[562] hostile and resistant to whites. Women were often seen ac-
companying the war parties, carrying food and weapons, and
(786) sometimes joining in fights. Williams goes on to say that
while the "elementary small sympathy-groups" (the local
[628] kin and settlement units, and to a lesser extent the dispersed
clan units) were tightly knit, their external relations were
(728) precarious. "There were peacemakings or truces, but the
truce was always a fragile one, and no (settlement) lived
in permanent security." "Hiving off" occurred sometimes
361 as the result of a "quarrel and the fear of retaliatory magic,"
241 but more often it was "simply the lax method of horticulture
which necessitates the clearing of many areas in succession
[578] and sometimes a temporary settlement on a distant site."
Another factor could have been food scarcities which tend
361 to occur in exceptionally dry southeast winter seasons. During
261 this period, north and west Lamington area is in a rainshadow
zone, and people may have to scatter out to live on wild
roots and fruits. The implication of this is that even the
731 excision of the 4,000 persons from the Orokaiva group who
165 were killed involved no extensive shattering of valued ties.

361 Williams and others judge that with the modern pacifica-
tion, the Orokaiva have tended to disperse in even smaller
178 living units than before. This appears to apply particularly
(799) to the relatively densely populated Lamington slopes, though
a few instances of larger aggregations approaching a village
type also occurred, particularly as a result of Mission influ-
361 ence. Over against this greater dispersal, the people have
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[p. 18-B]

474 668 791 should be formed . . . (and that) as a result of their activities the white people would leave Papua and the villagers would be in charge of their own affairs." This type of cooperative movement was stimulated after the war, and included putting crosses in the gardens, offering prayers before gardening activity, building special houses in which cooperators could meet and eat, and collecting money for vague purposes. Even in the face of Mission reluctance and some Orokaiva opposition, Government finally stepped in to try to give it better direction; a Cooperative officer was trying to bring the situation under control when the volcano exploded.[8]

648 As final pieces in this background mosaic, the effects of World War II may be noted. When the Japanese moved in they formed labor gangs with the small number of captured whites, including Mission workers, later removing them when Allied attack was imminent. As battles ranged through the area, Orokaiva were drawn in as helpers, willingly or otherwise, on both sides of the lines. After the Japanese surrender, American forces built up large military establishments including airfields in the Buna-Oro Bay zone. Great numbers of Orokaiva were gathered together in work camps which were not unlike the present refugee camps as regards living conditions, food, and social structuring. [792] In the wake of the war, War Damage Compensation representing considerable money wealth by Orokaiva standards came into the area. [729] Some of the younger men who were "veterans" were given technical training at Higatura and elsewhere.

361 These Orokaiva were generally resistant to a war-stimulated movement to consolidate into larger settlements although it has had considerable vogue along the coast and in the Kokoda region. Typically, the new villages have been built in an open area, with houses drawn up like a military encampment on three sides of a square or rectangle. [526] The inner square is used for soccer football, which is tremendously popular, and for other community purposes. 731 361 Subsequent to the eruption, the Orokaiva who resettled along the jeep-roads outside the danger zone were encouraged by Government officers to build this type of village, and the houses were laid out under the official eye. First, the men left the relief camps to erect buildings, and were followed later by the women and children. These new settlements contain anywhere from 100 to 400 persons, with the kin and hamlet alignments usually kept through contiguous housing. Such units are within sight of one another, and from the air resemble a chain of fairly continuous settlements. Some family and hamlet groups, however, have inconspicuously avoided settling in these new villages although this has been difficult because Government has tried to keep a very tight supervision in case its judgment as to the danger perimeter has been wrong. A government post was established in each of the two main resettlement zones to facilitate this supervision.

[657] Belshaw has observed this resettlement in a somewhat more advanced stage than was seen by the writer. He comments that in general the prime concern of the people was

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[8] Belshaw, *op. cit.*, pp. 249-252, gives a fuller account of this cooperative movement and its significance. Publications of the Anglican Mission also contain references, seen by the writer some years ago, but not available at the time of writing this paper.

[p. 19-B]

731 361 [657] to get out from under the direct control of Government and that everything was "subordinated to this end." Those who had title to land outside the closed area and wished to get to it, readily agreed to official plans for resettlement, including the village building program. Those whose land was inaccessible—too far off the road or in the danger area—attempted to obtain permission to occupy land of kinsmen or others who might be willing. The most immediate objective was to break in gardens and to reduce or eliminate the need for rations, emergency wild foods, or daily treks into the closed area for salvage produce. Here difficult problems are foreshadowed. This pattern of settlement will be possible only on a short term basis. For longer occupation the people will either have to scatter out in widening areas to make their further seasonal shifting gardens, or else make the radical change to sedentary gardening which has no appeal to most of them.

731 361 311 [161] The situation is made more serious by the fact that the safe land tracts are, in general, less fertile than the devastated higher slopes; these and comparable areas elsewhere do not carry such relatively dense settlement.[9] Mr. H. T. Plant, an officer with anthropological training, made a quick survey of land tenure and social structure in the resettlement zone on the Wairopi side. On this basis he estimated that with only about five acres at hand per person, or approximately 100 people to the square mile, the available land is inadequate by New Guinea standards to support the population. In April, Belshaw found that great uncertainty surrounded land use problems. There were frequent moves, uncertain titles, disputes over tenure, and conflicting authority among the hamlet and clan leaders. He predicted that it might take months to sort out the economic and social threads involved. It will take far longer to build up seed stock, domestic animal herds, and other bases for normal living, as well as the large quantities of food required for the proper ceremonies for the dead which will eventually be held. In due course other settlement areas than those immediately occupied will need to be found for people still in the camps.

731 152 [578] Government and Mission personnel were ready to offer judgements on Orokaiva behavior in the crisis situation, and camp records had some objective data to the extent that people broke the law, entered hospital with wounds, or otherwise came under official purview. In addition to the "sense of guilt" already mentioned, there was said to be considerable "anxiety," "irritability," "excitability," and "quarreling." The legal record shows several sharp clashes where injuries were inflicted, wife-beatings, and other kinds of quick tempered violence. Under extreme provocation, it was said that they might "throw hysterical fits." An obvious source of early tension came from not knowing the fate of missing clansmen. Officials denied knowledge of any significant mental derangements beyond the scattering of instances known previously.

The Oro Bay camp inhabitants appeared to be under by far the most stress and strain. Here, out of sight of the

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[9] Williams, after referring to the rich Lamington slopes, says: "A somewhat discouraging contrast is found in the forests of the plain proper, which are sometimes gloomy and waterlogged . . . and of wholly inferior quality" (*Orokaiva Society*, p. 12).

[P.20-A]

731 152 [823] mountain, wholly on official rations, and with nothing to do, the people were a prey to all kinds of rumors as to what was going on elsewhere. Furthermore, these mountain people apparently could not conquer a fear of the sea, and this was reinforced by a rumor that a supernatural "tidal wave" was to occur along the coast. The camp director told how every night the more timid scattered on to the higher ground rather than sleep in the camp on the foreshore. Prior to the liquidation of this camp the authorities sent one of the leading men back to the big Ilimo camp and the home area so that he could return with a factual account of conditions and allay the other inmates' fears as far as possible. A strong current of tension running through this whole situation was: "What does Government intend to do?" All these behavioral conditions appear psychologically congruent with the long term personality norms.

731 361 177 The new group alignments of the camps and resettlement areas presented interesting tests as to how far larger aggregations could be structured effectively enough to show promise of permanence. This matter is particularly crucial to policy, and constitutes the major challenge from the viewpoint of "applied anthropology." Reference has been made in the foregoing to a controversy which arose as to whether this would be an appropriate occasion to resettle the survivors in centralized communities, or to allow them to scatter as before in a dispersed pattern of settlement consistent with safety. Some officials resented the idea that the catastrophe should be used to "put over" anything other than those rehabilitation operations that are in line with the habits and sentiments of the people. On the other side was an opposing official viewpoint, and a powerful Mission sentiment, that it would be in the long term interest to take the opportunity to concentrate the surviving Orokaiva into a small number of population centers, with proper welfare and other services. The first village building program represented something of the latter viewpoint, though some even visualized bringing the people into a handful of large townlike communities, much like the Ilimo camp-settlement, with cooperative agriculture and other modernization. The Orokaiva, so far as their views had been, or could be obtained, appeared to have no crystallized opinion. Because of the factors playing upon them, they were for the time being particularly susceptible to the suggestions of those official and Mission workers who brought the enthusiasm of reformers to the cause of concentration.

731 The writer was asked to give an opinion on this matter. The following points seemed clear, even from a quick view:

657 361 177 1. The loosely organized Orokaiva society has no significant pre-existing socio-political institutions and loyalties beyond the immediate kinship and hamlet alignments. A camp concentration, therefore, remained a congeries of traditional groups, each dealing with Government authority through its senior leader. Officials said that a few particularly strong men of super-local reputation were tending to take leadership in speaking when the "headmen" were brought together for informal camp "councils." But essentially, for purposes of issuing ration and other activities, each small group had to be dealt with as a unit, and otherwise kept its integrity. Here and in the newly formed villages, Government de-

[P.20-B]

731 liberately endeavored to keep everyone busy, and the men
spent much of the time in work gangs (e.g. Monday, Tues-
657 day and Wednesday were usually devoted to house-building;
361 Tuesday, Wednesday and Thursday to gardens; Friday to
roads and hygiene). But leadership and organization were
177 creatures of Government, and to some extent of Mission.
There were no significant signs of a self-motivated superstructure taking form other than the strengthening of scattered clan ties. Consequently, should larger communities be established with the purpose of preventing the people from scattering out again, they would have to be bureaucratically or theocratically controlled with all the dubious consequences such a situation can entail.

2. Reasonable law and order was being maintained in the
731 new settlements, under the eye of a considerable force of
657 the Papuan Constabulary sent in for the emergency. Oppo-
nents of a concentration policy claimed, however, that the
578 older patterns of intergroup hostility and violence are not
[625] far enough below the surface to justify the risks involved
in larger long-term aggregation. As indicated, problems of land tenure are a major potential source of conflict. Another is "woman trouble," judging from experience in the camps where husbands and wives find themselves in informal association with members of the opposite sex, in contrast to the normal tightly structured small units.

731 3. Not least among the uncertain factors is that of sorcery.
754 According to those who manage the settlements, fear of
coming under the influence of strangers who practice sorcery
shows itself as a vague but persistent factor. Most overtly
514 it has emerged in connection with the disposal of waste
products in the large camps. In typical Papuan fashion the Orokaiva is extremely secretive in his disposal of faeces and other leavings of his body because of the possibility of their use against him in harmful magic. A crucial question, therefore, has been whether group toilets could provide enough anonymity to forestall opportunities for the practice of sorcery. The problem was dealt with where possible by putting men's and women's latrines over running water. This social-supernatural sanitation problem could be serious where long term settlement of large groups is being planned.

731 4. On the economic side, no sound basis seems in sight
361 for establishing large permanent communities in the com-
prehensive manner proposed. As indicated, the familiar pat-
241 tern of shifting gardens will normally involve seasonal move-
ment outward from the immediate environs of the new
settlements where most present cultivations are now being
made. As yet, no widespread disposition exists to adopt more
[242] intensive sedentary cultivation, although undoubtedly some
will be prepared to try to continue cooperative experiments
with rice and other crops and, hence, will be amenable to
Government and Mission encouragement and aid here. As
731 in socio-political affairs, the responsible organization and
leadership would in general have to be provided from out-
657 side, with the dependence relationship that this implies.
[241] Government might have to continue helping any large com-
munity for an indefinite period, as with the mechanized
[177] agricultural production it is introducing at the Ilimo camp.
731 In large settlements the technique of handling domestic pigs
and chickens, vital sources of protein, is always a difficult
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731 [231] problem—and one which the Orokaiva will not be equipped to solve when stocks of these animals are eventually restored. It seems fair to prophesy that as the people become habituated to living in the shadow of the volcano, many of them will quietly "hive off" from the present concentrations and go their familiar economic way. Alternatively, official opposition to this trend could produce growing tensions, including anti-Government hostility.

[557] [799] 5. Other factors can be noted congruent with the above points. Some individuals are said to fear that in larger communities they will face more extensive demands for village maintenance and other Government and Mission needs than under the old patterns of settlement. Belshaw points to a [799] complication of the labor situation in the resettlement areas due to a request by the Mission that its adherents devote some time to building new Mission stations in the area. [178] As indices of the increasing normality of life, there is some revival of dancing and music, as well as keen sports interest.

731 361 On the basis of such factors, the writer ventured to present to the Administrator and a group of his top officials a view opposed to a compulsive concentration policy. He suggested, instead, that three or four main "centers of attraction" be developed outside the danger zone and on the main road, corresponding to the principal ethnic concentrations (Sangara, Isivita, Wasida). Here would be located subdistrict offices, Government boarding schools, medical aid posts, community center houses, experimental garden plots, and other facilities. Housing space could be made available to those desiring to settle around such a center voluntarily and try out more concentrated and sedentary living. The Mission could also use such centers for their stations if it wished. The writer also recommended cutting a series of crossroads more or less at right angles to the main road, and locating each "center of attraction" at a main crossroad point. These secondary roads would serve to draw settlement away from the overcrowded chain of villages that have developed along the one main road. This plan would enable those people who do not wish to be concentrated to scatter out in a wider pattern of dispersal for garden development; it would offer quick routes of escape on foot or in vehicles in case of the threat of further eruptions, ready access for government welfare services, and for transporting commercial crops to market. The writer has subsequently been informed that these proposals in general correspond with the policy which was officially adopted—crossroads have been cut and government centers and facilities have been built up at three key points.

731 799 The second problem referred to earlier, namely the delicate one of Government versus Mission responsibilities, will be discussed only briefly. The Mission teachers claim that the great majority of the mountain Orokaiva are adherents: those remaining outside the church do so by conscious choice. In the wake of the eruption the Anglican authorities sent in a very active, young Bishop who was familiar with the people, to take charge in place of the resident white staff killed at Sangara. Mission medical workers took over some of the important health responsibilities, including a [875] [872] Mission hospital at Oro Bay. "Native" Papuan Mission teachers started elementary vernacular schooling in the camps.

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177 This was in accordance with the official policy of the Ter-
872 ritory that mission bodies shall normally handle at least
the first four years of "village" level schooling. In such a
[657] major center as Ilimo, however, the question arose as to
whether Government should step in to provide more adequate schooling facilities as part of its "community development" program. This was complicated by the fact that children of non-adherents had to come under the Mission teachers
[875] if they were to get schooling. The writer was told that in the morning these teachers went through the camp with switches to get children to school. Another potential con-
[241] flict was foreshadowed at the time of the writer's visit by the Mission's decision to send in agricultural workers in
[657] the face of the active program of rehabilitation by Government technical officers.

657 The writer gave it as his opinion that the Government should not abrogate its responsibilities in essential matters of rehabilitation, that it should insist on coordination rather than rivalry. It is understood that this view has been made policy, even in the face of the great sensitivity of Government in such delicate relationships that could reflect back in the form of criticism by religious groups in the metropolitan country. Government schools have been opened and the people are free to choose between them and the Mission institutions. Official medical services have become well organized. It will undoubtedly take time to unravel the question of the Mission role in agriculture, particularly as it is bound up with the religiously-oriented cooperative movement. There could be further new cults centered upon gardening and, as with various other post-war movements in the New Guinea area, these could be either pro- or anti-Government or Mission or both.[10]

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177 The possibility of transforming Orokaiva agriculture from the shifting to a sedentary basis deserves a special final word. A recent report of the Director of Agriculture stresses this problem as of prime importance to the development of

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[113] [10] Though extensive materials exist in unpublished official reports on post-war New Guinea cults (e.g., the Paliau movement in Manus, the Yali cult in Madang, the Tomu Kabu cult in the Purari delta) very little has been published. Available references are Belshaw, C.S., "The Significance of Modern Cults in Melanesian Development," *The Australian Outlook*, 4, 2, pp. 116-125 (1950); de Bruyn, J.V., "The Manseren Cult of Biak," *South Pacific* (Journal of the Australian School of Pacific Administration, Sydney), 5, 1, pp. 1-10 (1950); Guiart, J., "Cargo Cults and Political Evolution in Melanesia," *South Pacific*, 5, 7, pp. 128-129 (1951); United Nations Mission, *Report of Visiting Mission, 1950* section on Paliau movement, reproduced in *South Pacific*, 4, pp. 207-208 (1950). A brief analysis of modern cults is given in Keesing, "Research Opportunities in New Guinea," *Southwestern Journal of Anthropology*, 8, 2 (Summer, 1952).

[p. 22-A]

241 the Territory to the point of self-sufficiency and dietary adequacy
177 and one on which almost no progress has been made.
Theoretically the problem does not look difficult, in view
of the characteristic adaptability of the Orokaiva, the loose
group organization which involves no elaborately structured
hierarchy of vested interests in the *status quo*, and the freedom
of families to experiment as they wish as more or less
independent production units. But here, as in the case of
shifting gardeners in many comparable situations, the problem
is one of motivation, of incentives. Among the Orokaiva,
for all the enthusiasm they have engendered, past religious
and cooperative movements have not struck seriously at
the rotational basis of cropping, or introduced fertilization
and other soil-maintenance techniques. The territorial Department
[654] of Agriculture is desperately short of manpower
and it is not likely that it can afford to station a permanent
cadre of technical personnel to guide and supervise this
[797] still quite remote district. It is also very doubtful that the
Anglican mission could do so. Nevertheless, at the centers
referred to above, the present dynamic situation justifies giving
encouragement and aid on a voluntary basis to any
families and individuals who may wish to try out sedentary
cultivation, market saleable products, and on a cooperative
basis of organization where desired. Such a non-compulsive
widening of the range of cultural alternatives seems in line
with a current strong stirring of ambition among some of
the younger, schooled Papuans to adapt to the modern world
and have a greater voice in the affairs of the Territory.

To the extent that this paper presents a correct interpretation,
731 its implication is that this catastrophic shock has produced
177 something approximating a minimum degree of cultural
178 trauma, considering the demographic dimensions and
the destruction and death involved. Predispositions in Orokaiva
121 culture and personality favored relatively easy "adaptive"
behavior in the face of crisis. The remarkably effective
[657] relief measures taken by the Australian authorities helped
materially to cushion the situation. Any attempt by Government
and Mission to use the emergency to manipulate such
a people and culture arbitrarily in drastically new economic
and socio-political directions would seem foredoomed to
failure, and would generate unwanted tensions. Yet opportunities
are clearly present for economic and other stimulation
121 and education of a voluntary and permissive type. Considered
as a case study in cultural dynamics it is illustrative
both of internal readjustment in a culture where a sharp
shock and break in continuity occurs, and of the implications
of attempted control and direction in culture process by a
dominant outside authority.

[p.22-B]

121 the assumption is that such events are read by a social group as constituting a sign or system of signs.[1]

Such an assumption is legitimate in the case of the eruption of
731 Mount Lamington. In the view of the great majority of my Orokaiva
787 informants, the cataclysmic explosions in the mountain and
823 related volcanic activity were utterances communicating a message. With unimportant exceptions to which I shall refer later, informants took what may be called a religious view of the eruption (Lévi-Strauss 1962:292). They invested with personal will what we would call forces of nature (van der Leeuw 1938:chap. 9). And not only did some Being cause the eruption, but he used it as a means of communication.

[121] Whether it is expedient to study a cataclysm such as the eruption of Mount Lamington as a system of signs emitted by the mountain depends entirely on the quality of the insights that
[184] emerge. In this case, field inquiry showed the existence of at least four systems of thought on the significance of the disaster. The adherents of these systems each expressed a different world view consistent with their view of the eruption. The existence of such ideological differences within a single society reflects conflicts which occur not only on the level of discourse but also on that of social transactions.

Such data raise several questions that merit close examination.
121 If all Orokaiva had placed the eruption within one logically consistent
731 framework of meaning, we might believe that we had thus
829 discovered *the* cognitive system of the Orokaiva. In the present
184 case we find four ideologies and explanatory frameworks all generated by the same cognitive system, in the same way that different players may use a variety of strategies while competing with one another in the same game. It then becomes our task to reconstruct this cognitive system and account for a system of interrelated ideologies generated by a sequence of events as interpreted by the cognitive system.

121 Another question is whether ideological discourse about the cause of the eruption deals with all or some or any of the basic
731 conflicts identified in the society by ethnographic study and analysis.
829 My data, dealing with the period 1951–1966, suggest that Orokaiva ideological discourse was rather selective in the conflicts with which it concerned itself. The conflicts between tribalism and regionalism and between denial and acceptance of the

121 partnership with European power are fully canvassed, but con-
[731] flicts arising out of the relocation of refugees after the eruption
and conflicts concerning land tenure are not reflected in ideologi-
[829] cal discourse related to the disaster. How can we explain this selec-
tiveness?

We may finally ask: To what extent have signs communicated by the eruption become an integral part of the Orokaiva system of thought in 1966? To what extent do they appear in the rhetoric expressing current ideologies? To what extent has the eruption generated these ideologies? How do cognitive systems adapt themselves to far-reaching events (such as the establishment of Australian authority) which call into question the traditional rationale for behavior? In short, the Orokaiva data lead us to an exploration of the dynamics of non-Western thought.

128 The factual material presented here corresponds closely to the preoccupations agreed on by the contributors to this volume. I commence with the presentation of some background data, emphasizing institutional, transactional, and ecological factors. The semiotic analysis that follows is focused on crisis behavior. The analysis will bring to light conflicts in two areas which are of special concern in comparative study of exile and migration in Oceania: the macrosystem/microsystem relationship and the maintenance of ethnic boundaries.

My discussion of land tenure conflicts, ignored in the ideologi-
cal discourse under examination, will deal with the cultural mean-
ing of spatial movement and the significance of land at various
[423] levels of culture. It will be demonstrated that although land tenure
[182] does not figure in ideological discourse about the eruption direct-
ly, it is integrated into ideological discourse indirectly.

121 The use of semiotics in anthropological analysis is at an early stage of development. Among the well-known pioneers in America are Bateson (1935, 1951), Mead (1964), Sebeok (1970), and sources such as E. T. Hall, Alfred Hayes, and Weston LaBarre. In this chapter, I have relied a great deal on the work of Lévi-Strauss (especially 1958, 1960, 1962), whose semiotics forms an integral part of his structural comparative method.

Semiotics has inevitably drawn extensively on linguistic concepts, since linguists have traditionally engaged in sophisticated analyses of symbols. The present chapter owes a debt to Saussure, to Hjelmslev, and especially to Barthes (1964a, 1964b). I would

121 why were they so anxious to return home where they could no longer be instructed in its practices? The answer seems to lie in the land tenure problem, discussed later, which was reflecting fundamental structural changes in the society. But why was this problem passed over in silence in all the statements about the "new age" recorded for the period immediately after the eruption? The answer to this question may be mere speculation, but it is clear that by excluding land tenure from our analysis, we shall become the victims of our informants' own mystifications, which is all the more regrettable since, by 1966, Orokaiva ideologists had recognized the importance of the land tenure problem for the setting up of the "new age." Our final analysis is therefore based on an unconscious model which includes this factor.

THE EVENT AND ITS SETTING

133 On 21 January 1951, Mount Lamington, a mountain situated in
731 the Northern District of Papua, was torn apart by what is technically known as a Pelean eruption. A paroxysmal explosion burst from the crater and produced a *nuée ardente* which completely devastated a surrounding area of 68 square miles (Taylor
[165] 1958:7).[6] Almost 4,000 people, mostly belonging to the Orokaiva-speaking group of tribes of the Northern District, were killed. The
101 word "Orokaiva" is used here to designate speakers of the Orokaiva language, resident in an area roughly coinciding with the Popondetta, Sohe Popondetta, and Saiho census divisions (see map 1A4).[7] This area comprises the foothills of Mount Lamington and the alluvial plains to the north and east. The area is rather homo-
731 genous in culture, and dialect differences are minor. Destruction in this inner zone of devastation was almost complete. A further 22 square miles were partially devastated, and it was from this area that some 3,000 inhabitants were able to save themselves by running away from the *nuée ardente*. The population of the Mount Lamington foothills, within a radius of at least 10 miles from the crater, fled from their villages as the explosion threw stones over all the area, destroyed the administrative center at Higaturu, and blotted out the light of the sun.

It was at this point that the administration of the Territory of Papua intervened. Australian authorities sent in supplies for the

A [See Category 102, p. 303--Analyst]

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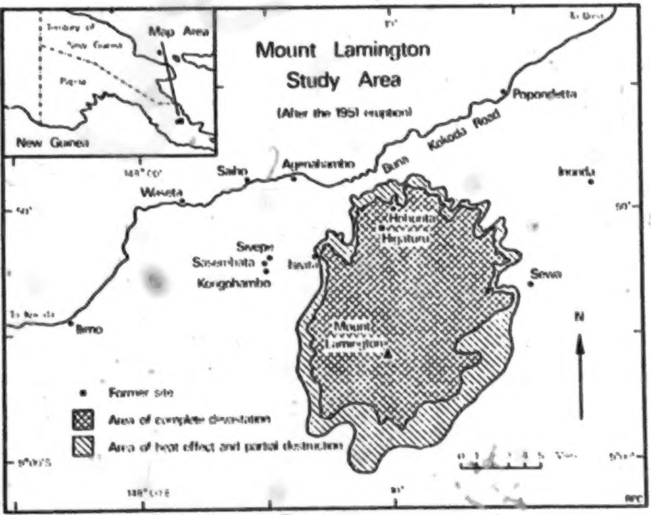
● 731


Mount Lamington
Study Area
(After the 1951 eruption)
Map Area
Papua
New Guinea
Popondetta
Kokoda Road
Buna
Saho
Agenahambo
Wasata
Inonda
Hohorita
Hipaturu
Sivepe
Sasembata
Kongohambo
Sewa
Ilimo
Mount Lamington
N
Former site
Area of complete devastation
Area of heat effect and partial destruction

Map 14. Mount Lamington, Papua.

731 survivors, established camps to house them, and set up a volcanological observation post. Acting on technical advice that further explosions were to be expected, the administration at once restricted access to a fairly wide area surrounding the crater, thus forbidding most of the fugitives to return to their homes. It was at this stage also that the administration called in two anthropologists, Felix Keesing and Cyril Belshaw, for advice on what should be done with the now homeless population.⁷ Shortly after the two anthropologists left the scene in May 1951, volcanological studies indicated that the active, paroxysmal stage of activity of Mount Lamington had ceased and hence that a large part of the restricted area could be resettled. In March 1953, it was possible to reduce the restricted area still further, to a circle of 2 miles surrounding the crater. As a result of these events, virtually all arable land in [166 the district was in use when I visited in 1966–1967. There were no displaced communities in the proper sense of the word. There had been movements of villages from the crater area to consolidated settlements in the vicinity of paved roads, but here convenience

731 rather than security was the main motive. Villagers were able to
use the land they had occupied before the eruption.

166 The Orokaiva case was therefore anomalous in a comparative
study of community displacement. There was no new physical or
731 social environment to which the Orokaiva had to adapt. There
was, however, a very traumatic experience and a temporary dis-
placement. Moreover, the eruption did permanently change some
significant geographic features of the district: the network of
roads, village sizes, village locations in relation to paved roads, the
location of the administrative center and institutions like the hos-
121 pital and mission. As these facts have been fully covered in my
earlier report, in this chapter I treat them briefly and then turn to
a somewhat broader but related question: How does a cataclysmic
event such as this eruption (and the temporary relocations that fol-
lowed) affect the structure of Orokaiva society?[8]

My research included three intensive studies of single villages.
[101] The relocated village on which the fullest data were collected was
Sivepe, situated 7 miles from the crater, on fertile, well-watered,
well-drained volcanic loam, with a population density of 180 per-
731 sons per square mile. Like all the villages west of the crater, Sivepe
suffered hardly any casualties but the people fled in panic and
166 were accommodated in the evacuation camp at Ilimo, a few miles
west of Kumusi River near the road to Kokoda. They stayed at the
camp until May, after which two of the local clan groups returned
home while the third was relocated in one of the large villages es-
tablished along the main Buna–Kokoda road after the eruption.[9]
This third clan group returned to Sivepe early in 1952. Sivepe was
731 rebuilt less than 1 mile from the old site. The most important im-
mediate consequence of the eruption, as far as Sivepe was con-
797 cerned, was the establishment of a large mission complex at Sa-
sembata, 1 mile away. With the assistance of surrounding villages,
the mission built a large school, a large church, and a hospital.
One reason for this development was the establishment, by the
government, of a large village for victims of the eruption. This was
built at Kongohambo (maximum population 900), a quarter mile
from the mission station. The mission services remained after the
Kongohambo evacuees had returned to their own areas shortly
after 1953.

731 For Sivepe, therefore, the eruption led directly to two highly im-
portant event sequences: first at the evacuation camp; later in rela-

731 tion to the mission station. The government had demonstrated in
the most tangible way that it accepted broad responsibility for the
people's welfare in a time of crisis and would act with great generosity
in such circumstances. The mission, which likewise had established
close relations with the people of Ilimo, had subsequently
remained to develop those relations.

As a control group for the study, I used the small village of Inonda,
101 12 miles from the crater and outside the restricted zone. Inonda
[121] differed from Sivepe in that its population was never
[731] evacuated or relocated. It continued to use its own land. The comparison
of Sivepe and Inonda thus provides a measure of the effects
of actual relocation as distinct from other experiences the
two villages had in common. In Inonda only one-fifth of the land is
arable; none of it is as fertile as the volcanic loam of the Mount
Lamington foothills; rainfall is lower than in Sivepe and so distributed
that lengthy droughts are not uncommon. Drainage is inferior
while population density is only ten persons per square mile.

731 Inonda acted as host for the population of Sewa village who fled
their homes on the morning of the eruption. Among the fugitives
871 was a mission teacher who set up a school in Inonda. When he was
later transferred to another district, Inonda pleaded fervently and
successfully to get him back. Today Sunday services are given by a
lay preacher and children attend a mission school several miles
away which teaches up to grade two.[10] Interaction with government
and mission authorities was far less intensive at Inonda than
at Sasembata.

The third village I studied was Hohorita (population 348), 7
731 miles from the volcano, with soil largely similar to Sivepe's, good
[101] rainfall, good drainage, and a population density of 135 persons
per square mile. Hohorita is made up of the survivors of the Sangara
tribe, once 4,000 strong, which was almost entirely wiped
731 out by the eruption. The survivors were evacuated to camps along
the coast and then allowed to return to the boundary of the restricted
166 area, where they built a village called Irihambo. They
were ordered to leave this village some years later (as it was situated
on crown land intended for the settlement of Australian ex-
731 servicemen) and then established Hohorita in 1957–1959. The
Hohorita people, like other relocated groups, had had intensive
contact with government and mission personnel. An unusually
large number entered skilled occupations, partly because the San-

781 gara lived close to a large mission station which offered educational facilities until it was wiped out by the disaster. Afterward, the mission took a special interest in their welfare.

781 What distinguished the relocated villages from the others was not greater contact with European-dominated institutions. On the 184 contrary, it would seem that contact with such institutions was [177] probably most frequent among the male residents of Inonda, who were much engaged in wage labor; such contact was least frequent in Sivepe, with Hohorita holding an intermediate position. [434] Nor could it be said that economic prosperity, in the sense of money income, was correlated with relocation. On the contrary, the average income was higher in Inonda than in Sivepe or Hohorita.

781 In summary, the major outcomes of the eruption and relocation have been the following: first, the administrative center Higaturu, 657 situated on the mountain, was destroyed and replaced by Popondetta, which lies on the alluvial plain to the north, thus shifting the center of Australian influence away from the relocated villages. This detracted from rather than contributed to development of the relocation areas and placed the administrative center at some distance from the areas of greatest population density. However, the relocated villages were provided with subsidiary centers of Australian influence such as the hospital in Saiho and the mission 781 stations at Sasembata, Isivita, Agenahambo, and Hohorita. In addition, a number of large villages (with populations of 250 to 500) 361 came into being along the main road between Popondetta and Kokoda at a distance of 6 miles or more from the crater; these villages were made up of groups previously domiciled in small bush villages.

[177] The government prefers these large villages because they make it possible to introduce such Western social institutions as schooling, water supplies, road construction, and health clinics more conveniently. The eruption offered the government a good opportunity to establish large villages. The population of the bush settlement had abandoned the area, and by the time the population was allowed to return, the villages were no longer habitable because of 781 eruption damage and subsequent neglect. In this sense the eruption offered an opportunity for speeding up development 178 programs. One might also argue that social development among the Sangara survivors was accelerated when the entire older genera-

731 tion perished in the eruption and the survivors were therefore not fully instructed in traditional religious knowledge. Innovation 178 proceeded without the resistance an older generation might have offered had it survived. I have argued elsewhere that this absence of the elders led to striking changes in the Sangara perception of the world (Schwimmer 1969:70–71).

731 If we compare relocated villages such as Hohorita and Sivepe with villages touched less by the disaster, such as Inonda on the 184 alluvial plains, we notice that the former villages are larger, 182 display more of the innovations advocated by the government, have a higher level of school education, and have responded more to government-sponsored schemes such as coffee growing. In my detailed report (Schwimmer 1969), I was inclined to ascribe such differences to the effect of close contact and guidance during the period immediately following the eruption, but such an explanation should be treated with caution.

The differences are probably due largely to ecological factors described in the report. Inonda land provides more animal foods; it is slightly closer to wage employment and markets; the climate is less suitable for cash crops than in Sivepe. The population, due to its sparseness, is relatively deficient in health and educational services. Hence the conditions for cooperation with government programs were less favorable than at Sivepe. Furthermore, the observed differences may also be due to historical factors. While coastal and foothill areas had been missionized and in contact with the administration for many years, the intervening Sauaha groups including Inonda were defeated and sustained heavy losses [177] in the warfare of the early postcontact period. They subsequently remained aloof from white contacts. After the Japanese occupation, some of their men were hanged by the Australians for having acted as collaborators.[11] Hostile feelings are still an impediment to the acceptance of government and mission programs.

731 Such social consequences of the Mount Lamington eruption do not in themselves lead readily to illuminating anthropological generalizations. The actions of government and mission immediately after the eruption greatly relieved the distress of the population, but we cannot establish that these actions, directly 121 and specifically, led to major social changes. One might therefore be inclined to view the eruption of Mount Lamington as lacking serious anthropological interest, yet such a view would greatly

823 his wife; the two were separated and found themselves on different
773 crags. Sumbiripa became the first man to die, the master of the
mountain within which he has since dwelt together with all Oro-
[776] kaiva who died subsequently.[12]

The myth explained the shape of the mountain as it was before
the eruption. The crags are not there today because they were
blown apart by the eruption. The myth also explained the rum-
bling of the mountain and the smoke that issued from it long be-
[781] fore the eruption of 1951. Such phenomena were regarded as signs
sent by Sumbiripa. Ritual prohibitions limited access to the area
[784] close to the crater as there was a belief that Sumbiripa, if dis-
turbed, would be angry. There was also a great fear of the dead
[775] who were supposedly dwelling in the mountain. It is believed that
the dead wander about the countryside, where they may attack
humans. Sumbiripa is dangerous, even if he does not erupt, be-
cause he can send out his ghosts to cause misfortune among men.
The myth about Sumbiripa Kanekari hints at the possibility of an
earlier eruption by the account it gives of the origin of the crags
existing before 1951.

731 The sociological importance of the eruption lies largely in the explanations of the event developed afterward by the survivors. These explanations are related to the situation of Orokaiva society in 1951. Here we must distinguish between the situation as it appeared to the Orokaiva individual or to small refugee groups and the collective situation of the Orokaiva tribes as they collectively perceived it, in terms of the basic forces shaping their social life at that period. We may follow Burridge (1960) in identifying these basic forces with the colonial government, planters and traders, the mission, and relations within and between tribal groups.

Immediately after the eruption, the situation for individuals and small groups was dominated by fear of the mountain, grief for dead relatives, and anguish at separation from the land. The situation was influenced, moreover, by abrupt changes in social organization. The Sangara fugitives mostly fled alone or in very small groups, leaving behind their numerous dead; the Sasembata fugitives mostly fled in village groups led by their village constables. While the disaster made the Sangara leaderless, in Sasembata it merely reduced dependence on traditional leaders at the gain of the village constables whose responsibility was greatly increased. Village constables were members of village communities ap-

731 pointed by the administration to enforce regulations concerning law and order, works and amenities. They were not necessarily 'big men', customary feast-givers or, military commanders.[13] At Ilimo they at once became the leaders of all operations (food distribution, house building, visits to the home village), as these involved dealings with the Europeans in control of the rescue and supplies.

These organizational changes, individual fears, grief, anguish, and the increased dependence on village constables and white authorities were certainly reflected in the explanations given of the eruptions. But these explanations took account also of far broader cultural issues, in fact of the total postcontact experience common to the population of the Northern District.

The Orokaiva explanations of the disaster to be considered here certainly cannot be understood except in the context of the total Orokaiva cognitive system. Any Orokaiva explanation places the eruption within a logically consistent framework of meaning, but it is only one of several possible frameworks that might, successively or even simultaneously, be constructed out of the Orokaiva cognitive system. I propose, in the present section, to construct a model of the various systems of connotation and the relations between them. Systems of denotation are briefly referred to here but explored in more detail in the following section.

One obvious line of explanation of the eruption was to ascribe it
731 to the anger of Sumbiripa. Many Orokaiva actually explained the
784 disaster in this way at the time it happened, as may be seen from
the evidence of Tomlin (1951), Benson (1955a, 1955b), and
184 Schwimmer (1969:69ff.). The anger of Sumbiripa, as supposedly
776 expressed in the eruption of Mount Lamington, was explained by Orokaiva by various disrespectful acts against the mountain. Grenades had been thrown near the crater during the war. Afterward, the Orokaiva began to acquire guns for hunting on the mountain. Such were the acts quoted to me in Hohorita and Sivepe as arousing Sumbiripa's anger. The eruption was regarded by informants as an unprecedented event. The question arose in the Orokaiva mind why such an event should occur just then, when it had never happened before. The anger of Sumbiripa had always been feared, but no sinister meaning had been attached to the rumblings and smoke signals, and, moreover, revenge had always been mediated through 'ghosts'. The new form of punishment could be explained

791 only with reference to a quite novel form of infringement of the
taboo—a far more offensive infringement than had ever happened
784 before. Just what made grenades and guns so offensive?

184 This question may be answered on several levels. The first of
776 these is a purely ritual level. Of all the novel activities in which the
Orokaiva engaged near the mountain, the ones that were singled
out as significant stood out by making a sharp, loud, and danger-
[824] ous noise. Now there are many ritual contexts where the Orokaiva
use silence as a sign of respect and noise as a sign of disrespect.
Hence the Orokaiva were ritually consistent when they told me it
411 was the noise of the hunters' guns that angered Sumbiripa. But
hunting rifles have a further symbolic significance that should be
224 taken into account. I was told that game on the mountain was
plentiful until the guns were introduced but that today hardly any
game is left because the guns killed it all. In this instance the Oro-
kaiva were giving a very reasonable explanation of a drop in game
population which was probably real enough. In fact everybody
uses guns today or wants to use them, as they are effective for
hunting. But they are also sinister—that is, their effectiveness is
known to be too great to allow the game population to survive.

[177] The young men who took up the use of hunting rifles between
the end of World War II and the time of the eruption were bold in-
[829] novators and at the same time they were considered slightly
wicked in abandoning traditional hunting methods. This is im-
791 plied by informants who account for the eruption by the anger of
Sumbiripa. They are thinking of the breakdown of the old order
784 by the adoption of European innovations, Sumbiripa representing
184 the potency of the old order. They argue that if only the young
men had not started to use hunting rifles, the disaster would not
776 have happened. The young men would never have dared to make
such a din close to the crater if their respect for the spirits had not
been undermined by newfangled doctrines.

The explanation of the disaster considered here resembles all
other recorded explanations in one fundamental respect: it is not
merely the application of a traditional rule to a new event but it
generates a new rule, justifies the rule in the light of empirical
evidence, and can be comprehended only in the framework of an
ideology which in turn was generated by contemporary events.
[177] The starting point of all the explanations is the activity of white
officials, missionaries, and traders among the Orokaiva and the

731 innovations they have brought. Those who blame the eruption on
the anger of Sumbiripa regard these innovations as potentially
784 disastrous. They argue that the eruption has proved their point; it
184 has fortified them in their ideology. Furthermore, they have estab-
lished the rule that people should not shoot on the mountain.
776 Before the eruption this was not, to my knowledge, clearly formu-
[177] lated as a ritual prohibition. Today it is clearly stated though gen-
erally disregarded for reasons we shall soon learn. In justification
of the rule, it should be noted that it is supported by some very
cogent evidence from Sivepe villagers. It is a fact that while the
eruption killed nearly all the Sangara it killed very few people of
Isivita and the Sasembata districts, even though they live equally
[411] close to the crater. It is also a fact that while the Sangara had
many hunting rifles in the late 1940s, the Isivita and the Sasem-
bata districts then had few or none. I was told that Sumbiripa
[787] gave two signs just before the eruption. To the Isivita people and
those of Sasembata district he made a sign of blue fire, which
meant they would be saved. To the Sangara people he gave a sign
of red fire, which meant they would all die.

731 We note that this way of explaining the disaster is concerned
with a precontact social macrosystem comprising two allied
829 groups, the Sasembata and Isivita, and their traditional enemies,
the Sangara. It is not concerned with the contemporary macrosystem which is the system of relations holding between Papuans, the government, and the mission. Neither the government nor the mission enters into the explanation. Furthermore, the explanation emphasizes the tribal boundary between the Sangara people and those designated as the Waseta tribe by Williams (1940).[14] It is, in fact, the opposition between Sangara and Waseta that is stressed by this explanation.

It is precisely this opposition that makes clear the strategic and manipulative nature of the argument. Waseta are using the occasion of the eruption to score a point against their old rivals and enemies the Sangara, who deserved to be punished as retribution for earlier acts of war. The explanation ignores the fact that ninety-two Waseta also were killed in the disaster.

At this point we recognize the explanation as part of a connotative system. Any reasonable explanation of the disaster would account for all the deaths. The division of the dead into tribal or ethnic groups is logically insignificant. In a connotative system, 781 significance is assigned to this distinction for the purpose of stating some ideology.

829 Barthes (1964a) points out that in a connotative system the level of expression is "rhetoric" and the level of content is "ideology." This seems to describe the pattern accurately enough. The present explanation may be reduced to a rhetoric or moralistic vilification expressing a tribalist Waseta ideology. The rhetorical aspect is clear because in actual fact both tribes hunted on the mountain though only one was hit seriously by the disaster.

781 I now turn to a second explanation which deals with Orokaiva, though we have very few data on its currency among them. The
781 explanation is contained in a report (undated but probably written shortly after the eruption) from Fred Kleekham, district agricul-
784 tural officer, Popondetta, in which he describes a mission-
184 sponsored "Christian Cooperative." This cooperative flourished among the Yega at that time where, in Kleekham's opinion, it "did indeed become a cult." Kleekham reports that members of the cult refused to have their rice hulled or bought by the government and that this was due to "some mystical element . . . involved in rice marketing." He continues:

> I think that more influential than the thought that Europeans would leave Papua as a result of cooperatives was the belief that the formation of and participation in cooperatives would—magically or mystically—in short time raise the native to the status of the European in all respects. . . . I am sure that this movement owed much to hanging of Orokaivas judged responsible for the murder of missionaries and the former officer in charge of the coffee project.
>
> It is interesting to recall that one group was prepared to do *anything* under European guidance to get money. Their message was "show us how to get the money to buy the guns." Later the Lamington eruption which obliterated the government station at Higaturu was regarded by many as payback for the hangings.

781 There is no evidence that this explanation of the disaster was ever held by any Orokaiva. It is more than probable that this ex-
184 planation is that of the Yega, who are traditional exchange partners of the Orokaiva and enemies of the Sangara. It is among the Yega that Kleekham worked, and I am inclined to believe that the Yega widely accepted the views he reported. This would fit the facts as we know them. Certainly we should not expect the Orokaiva to explain the disaster by a theory which accounts only for

731 the death of the 45 Europeans on the mountain but not at all for
the death of 4,000 Orokaiva and the destruction of hundreds of
184 villages. It is far easier to understand such an explanation coming
from the Yega, traditional enemies of the Sangara tribe, whose
own losses through the disaster were very small. There is indeed
no reason why the Yega should have been grief-stricken by the
eruption at all. They were involved in an anti-European cult according
to which the death of the administration personnel at Higaturu
was thought nothing less than a divine blessing, while the
misfortunes of the Sangara may well have been a further source of
satisfaction. The Sangara survivors, who were quartered in an
evacuation camp in Yega territory from February to April 1951,
felt most uncomfortable there and very frightened that they too
would be killed off by their old enemies through poisoning, sorcery,
or other mischief.

731 The data do not enable us to say with certainty whether or not,
in the Yega explanation, the eruption was actually caused by the
784 anger of Sumbiripa. Benson (1955a, 1955b) describes the general
184 atmosphere among the Yega immediately after the eruption, and
[776] from his account one gathers that the Yega, like the Orokaiva traditionalists,
believed Sumbiripa was responsible, though he was
credited with somewhat different motives. Kleekham is undoubtedly
right that the public execution of the so-called collaborators,
conducted by the Australian army in a spectacular and rather
gruesome manner, caused much resentment among the various
[794] tribes of the Northern District. The Yega cooperatives of the late
1940s, described in some detail by Dakeyne (1966) and discussed
in Schwimmer (1969:86–89), were led by two Anglican clergymen,
Benson and Clint. They must therefore have believed that
power would come to them through the intervention of the Christian
God. Though the precise significance they attached to the
eruption is not known, the context suggests that they must have
regarded it as a sign that supernatural forces were working in
their favor or at any rate against their enemies.

[794] The metalanguage used in the Yega explanation is that of a millenarian
cooperative cult, arising in response to what was regarded
as oppression and commercial exploitation. The eruption established
a rule that supernatural agencies punish white people who
hang Papuans. In justification of the rule, there was again cogent
empirical evidence. Most of the forty-five Australian victims of the

731 eruption met their fate on the very same spot (Higaturu) where the
executions took place some years earlier.

784 I include the Yega explanation in this study because it influenced
184 the total regional communication system from which the
Orokaiva derive their basic concepts. What is this regional system?
It is certainly not a postcontact introduction, yet it has a very
different significance now as compared to the last century.

829 Williams (1940, n.d.) shows that the external boundaries of the
human race, as defined in Orokaiva myths, take in most of the
773 population of the Northern District of Papua but do not extend beyond
the Northern District. Internal boundaries drawn in the
myths separate this population into a number of mutually hostile
language groups, each specializing in the production or supply of
829 certain distinctive products. It was an integral part of Orokaiva
social thought to hold that permanent peace was impossible between
the groups thus separated, although a truce was occasionally
established and trade and intermarriage were regular occurrences.
794 In this respect, the Cargo Cults of the early postcontact
period (the Baigona Cult in 1912 and the Taro Cult in 1914)
829 marked a radical innovation. The chief social message, especially
of the Taro Cult, was that villages and tribes hitherto divided by
strife should be united in brotherhood. The cult taught that the
traditional tribal boundaries should be disregarded and all Papuans
of the region were one people. This idea started in the
coastal region but soon spread from there to Orokaiva territory
(see Chinnery and Haddon 1917; Williams 1928).

731 At the time of the eruption, the coastal people were again involved
in a millennial movement, the Christian Cooperative,
794 which was spreading throughout the Orokaiva tribes. While tribal
829 boundaries were a source of anxiety in all the evacuation camps
(though the anxiety was more acute among Sangara relocated on
the coast than among Orokaiva relocated at Ilimo), the possibility
of a further development of the Christian Cooperative was still
open, and this would have involved general acceptance of the
Yega explanation of the disaster.

731 Comparing the Orokaiva and Yega explanations, we note that
the cause of the eruption in both cases is the anger of Sumbiripa,
184 although the Yega explanation is not entirely explicit on this point.
829 Furthermore, both explanations take a rather negative view of European
[784] power—one by ignoring it, the other by making it the ob-

731 184 829 ject of the wrath of the mountain. There are, however, two interesting differences. The first is that in the Orokaiva explanation we find an opposition between two tribes (Waseta innocent; Sangara guilty). In the Yega explanation we find an opposition between ethnic groups (Papuans of the Northern District innocent; Europeans guilty). This classing together of the Papuans of an entire region is a departure from traditional tribalism. It reflects an ideology aimed at maximizing indigenous power by the establishment of an intertribal regional coalition.

731 184 784 The second difference lies in the role of Sumbiripa (or whoever the angry deity was) in the two explanations. In the Orokaiva version, the transgression was against the sacred domain of Sumbiripa and thus of a familiar traditional type. In the Yega version, the punishing God assumes a strangely political role in taking the side of the Papuans against their enemies, the whites. The crime of the whites admittedly took place near the mountain, though not in the sacred domain. Sumbiripa was never, in any other context, described as a general defender or avenger in support of "his" people. Indeed he seems to be playing a somewhat Jehovah-like role in this tale. We are here in the sphere of the Cargo Cults or millennial movements rather than in that of traditional Melanesian religion.

Meanwhile no mention is made of the 3,500 Sangara who died in the disaster. This would have weakened the argument, for any reference to the Sangara victims might have suggested that they too were worthy of punishment. Though the Yega probably do think so, it would not have been expedient to say so when an intertribal alliance was contemplated. Here we are obviously closer to ideological rhetoric than to philosophical speculation.

731 784 797 The third explanation of the disaster is the one that has attracted the most attention by previous writers. Belshaw, who met Orokaiva survivors a few weeks after the eruption, records the following observations (1951:242):

184

> Some people said that this was God's visitation because they had disobeyed the Bishop's instructions to build new churches. Others said that God had punished them because they had not helped the Allies sufficiently during the war and because some of them betrayed missionaries to the Japanese. [Others again mentioned] lack of cooperation in Mission and Government plans for development. . . . This sense of guilt is a most important factor in resettlement attitudes.

731 Keesing (1952:18) agrees with this summary, adding that the
eruption resulted in "strong feelings of insecurity and even of guilt
184 in their retrospective look at the pre-eruption way of life."

784 A great deal of evidence supports Belshaw and Keesing in their
797 suggestion that in 1951 the Orokaiva ascribed the eruption to the
anger of the Christian God and thought they had brought this
anger on themselves by various transgressions. Orokaiva informants reported that this view of the eruption was widely current
[533] at Ilimo evacuation camp. It is reflected in a song about the
eruption which is still sung by Sivepe youth. This song declares the omnipotence of God and man's absolute dependence on him. It also attests to a wholly Christian eschatology: the abode of the dead is Heaven, where the living will later meet their brothers who died in the eruption. The song admits the guilt of the dead ('our brothers on earth had many temptations'), but the strongest emphasis is on the suffering of the living through the loss of their 'brothers'. Unlike Job, the singer is far too polite to contend with God and criticize his actions. He does not openly and clearly identify God as the author of his sufferings, but God's responsibility is subtly implied.

The rationale of this explanation is not obvious. Quite clearly those who believe that God and not Sumbiripa was responsible for the disaster have some belief in Christianity. In response to contact with the white man they have developed an ideology supporting the work of the missions. But how do they explain the eruption? It seems very clear that in 1951 many explained it as retribution for their lack of respect for the Christian God. But Orokaiva Christians interviewed in 1966 and 1967 rejected this explanation as resting on a misunderstanding of the nature of God. Father Albert, who composed the song referred to above, was one of those questioned. He said that many of those who died in the eruption were little children. He did not think God would punish the innocent along with the guilty. On the other hand, he did ascribe a divine purpose to the eruption. Father Albert said the Orokaiva used to have no idea of the end of the world; this notion was taught by Christianity. After the disaster the people discussed it a great deal: when they saw the sky darken and people dying from the blast, they thought the end of the world had come. God had shown them what the end would be like. In other words, 781 184 Father Albert thought that God sent the eruption as a sign. Orokaiva Christians would generally agree with this view, though none of those interviewed formulated it so clearly.

784 797 From the viewpoint of this study, the question whether the Orokaiva considered the eruption as a punishment or as a sign is perhaps not a crucial one. In either case, whoever believes that God was responsible must also believe that a dire fate awaits anyone who fails in his obligations to the mission.

781 184 Comparing the three explanations surveyed so far, we note that the Christian explanation, like the Yega one and unlike the Waseta version, attached no significance to tribal divisions. God (like the Sumbiripa of the Yega) makes no distinction between tribes, but he does distinguish between the disobedient Papuans of the region and the administrators and missionaries these Papuans failed to obey. The former are guilty but not the latter.

Christian and Yega theories are opposed as to who is the guilty party. Indeed, the Christian explanation omits all reference to European deaths on the mountain, just as the Yega version suppressed the fact of the Sangara victims. The reason is no doubt the same: rhetoric demands that one should not in the same breath advocate a coalition with the white power bearers and admit that the latter suffered many deaths in circumstances implying their guilt.

With regard to connotations, all three systems differentiate between either tribes or ethnic groups that fell victim to the disaster, even though such differentiation is insignificant for explanatory purposes. If we use a minus sign to designate the social groups classed as guilty and a plus sign for the groups classed as innocent (though in fact the latter, too, suffered serious losses), we find:

	Victims		
Explanation	Waseta	Sangara	European
Waseta	+	−	omitted
Yega	+	+	−
Christian	−	−	+

781 184 823 I shall briefly mention a fourth system, though the explanation it contained was put forward by a small minority and was but feebly believed. Several Orokaiva close to the mission maintain nowadays that the eruption was due solely to geophysical causes. The mission authorites put forward this explanation to counter criti-

731 cism from white planters and public servants that the church, by
preaching that the eruption was due to God's wrath, is pursuing
184 obscurantist and reprehensible power politics. Orokaiva infor-
823 mants who adopted the geophysical explanation said that before
the eruption they did not know about volcanoes but have now learned from the white man that a volcano operates according to certain natural laws.[15]

There is no magico-religious Orokaiva metalanguage in which this explanation can be expressed. On the other hand, its connotation is clear. The explanation marks an informant as highly educated, free of superstition, and a good friend of the whites (including the anthropologist). The explanation connotes that magico-religious theories are old-fashioned and geophysical theories are modern. It divides the social universe into old-fashioned people (whose views have become irrelevant) and modern people (who include the Europeans and a Papuan elite who befriend them). Such a division vitiates the regional unity envisaged by the Yega and Christian explanations.

731 The connotations of the four explanations I have presented can
thus be expressed in a simple model based on two highly signifi-
184 cant oppositions which arise in the macrosystem of the Northern
829 District and in the changing system of ethnic boundary mainte-
nance.[16] The first opposition is between refusal and acceptance of a relation of positive reciprocity with Europeans. The second opposition is between tribalism and ideologies envisaging the unity of the Papuan tribes of the region.

Connotation	Explanation			
	Waseta	Yega	Christian	Geophysical
Rejection (−)/acceptance (+) of Europeans	−	−	+	+
Absence (−)/presence (+) of regionalism	−	+	+	−

ANALYSIS OF THE METALANGUAGES

121 Our next task is to analyze the evidence for Orokaiva systems of
829 thought in which notions like 'the anger of Sumbiripa' and 'the
anger of God' become fully comprehensible. We shall soon find

829 felt toward the exchange partner, fear of the trouble he might
571 cause, instrumental benefits he has to offer, the importance of the
partner in the total exchange network, and so on.

[578] Anger, in this Orokaiva philosophy, is a normal attitude toward
a partner with whom one stands, for the time being, in a relation
of negative reciprocity. An exchange of injuries takes place until
731 peace is made by the offer of an appropriate gift and feast. The
anger of Sumbiripa does not completely fall into this pattern be-
784 cause here the exchange relationship is somewhat limited in scope.
776 Sumbiripa's gift to man is the safe confinement of the dead,
whereas man's gift is merely the avoidance of any disturbance of
Sumbiripa's mountain. Man mediates the relationship by sending
his dead to Sumbiripa; Sumbiripa mediates it by emitting his
usually innocuous rumbling. Before 1951, Sumbiripa was not
known by Orokaiva to have ever erupted. Hunting on the moun-
tain and similar infractions were believed to have broken the ex-
change relationship and thus aroused Sumbiripa to a just reprisal.

Sumbiripa's anger was righteous not only because he was a god.
829 In the framework of Orokaiva thought, serious anger is normally
regarded as righteous, at least among persons standing in a regu-
578 lar exchange relationship. If anger expresses itself in verbal abuse
754 or physical violence it is not serious, but it becomes so if mis-
fortunes occur because of sorcery imputed to the person who is
wronged. The successful magical expression of anger proves that
anger to be well founded. A man may of course decide to use coun-
termagic, and if that works the anger is no longer serious. If coun-
termagic does not work, a man must be ready to acknowledge his
fault and make reparations.

829 In such a dispute it is of course relevant which side has broken a
rule, but the rules are most often debatable. In the end nothing is
578 considered worse than to have made another person seriously an-
gry. Prudence demands that seriously angry persons should be
mollified, unless their kinship and physical distance is such that
they can be defined as enemies. But even between enemies, a time
comes when anger is shown by magical and other misfortunes to
become inexpedient.

Self-accusation and self-inflicted injury are a regular part of
829 this system. In order to make peace a person must define himself as
627 the transgressor (Schwimmer 1970a, n.d.), as the Papuans did in
the 'anger of God' explanation. Self-injury is a regular strategic

829 627 weapon, since the person who cuts down his own tree to injure himself shows anger about a hostile act perpetrated by some unnamed person. He thus makes a claim for community sympathy and possible restitution (Williams 1940). Self-accusation is a form of self-injury and therefore at once places an obligation on the *sufferer* of the supposed original injury. In this sense an acknowledgment of guilt by Orokaiva would place some obligation on Sumbiripa or God to forgive them. Thus we can never ignore the transactional element in what is manifestly a sincere state of contrition.

● 731 784 797 It is far more complicated to explain the anger of the Christian God, and people's belief in it, than to explain the anger of Sumbiripa. At the time of the eruption, few Orokaiva had been baptized, whereas it was precisely in Sangara territory that the mission was well established and had many adherents. Most of the persons who thought they had been punished by God were actually still pagan, which strictly should have put them out of reach of his wrath. We need to reconstruct as best we can what kind of exchange relationship was deemed to exist in 1951.

We can appraise this only if we consider briefly the total system of relationships of the Orokaiva within the colonial macrosystem, namely the social unit comprising Orokaiva, mission, government, and traders. Theories about the punishment of God referred not only to Orokaiva neglect of the mission but also neglect of instructions and advice given by the government. The traders were never mentioned.

[657] [797] One common characteristic of government and mission is that both institutions believe they are the Papuans' benefactors and say so on many occasions. In particular, it is on these supposed benefits that they base any moral claims they make on the Orokaiva. When the eruption occurred it was therefore reasonable, from the Orokaiva viewpoint, to conclude that their slowness in satisfying the claims of government and mission had aroused in them great anger and that God, who manifestly was looking after the white authorities, acted as agent of the punishment.

829 431 177 In exchange relations it is a fixed policy to satisfy the claims of important partners first and be much slower about the others. The fact that the whites, in spite of their immense wealth, had a fairly low partnership ranking is not difficult to explain. If we glance at the kind of interaction typical of the years 1900 to 1950, we find

657 was amazed to see how closely the councillors' harangues and
other speechmaking in the villages corresponded to official poli-
179 cies. Many of the advocated ideas were not being put into prac-
tice, but generally the transition seemed rather smooth. There
were conflicts between the Orokaiva and their mentors, in some
instances irreconcilable ones, but it seemed that consideration of
these conflicts was being deferred because there was evidence of
steady improvement, as long as coffee prices would only keep
rising.

829 Informants, when asked when the 'new age' had started, all replied that it was after the Japanese were driven out. The eruption was never mentioned as the beginning of the 'new age'. It was after the war that the money economy became important and men began to take jobs outside the village for protracted periods. It was then that money became a necessary part of bridewealth so that, as an initiatory ritual, every young man had to have earned some. It was after the war that village improvement started seriously, as the history of individual Orokaiva villages shows.

731 The eruption of Mount Lamington in 1951 came a few years
after these beginnings, at a time when the impact of money was
179 not yet great, though the government and mission had had time to
communicate the new order they sought to establish and to press
for changes the Orokaiva were not too ready to accept. The erup-
tion strengthened the message. On the transactional level, there
was the large-scale help offered by the Europeans after the erup-
tion. This was done in the most dramatic way possible, by planes
dropping their riches in great abundance shortly after the disaster.
177 Certainly such a massive display of concern in a moment of need
did much to enhance the image of Europeans as desirable ex-
change partners. This display was followed by the organization of
the camps and by the widespread introduction, especially at Ilimo
Camp, of activities that were symbolic of the 'new age'.

Daily church services were conducted, all children were given regular schooling, adults were educated in a number of new agricultural and technical skills, good medical services were provided, and regular food and clothing distributions continued. New ideas on housing, village layouts, and women's handicrafts, lectures on how trade goods are manufactured in Australia, the presence of a strong development-oriented and numerous European staff—all these elements must have amazed the Orokaiva villager of 1951, 731 179 whose contact with this aspect of European culture heretofore had been rather slight. The impact of these intensive programs should not be overestimated, however. For people whose world had been shattered by disaster and relocation, adult education was, according to administrators involved in the program, hardly a major concern. Belshaw (1951) expressed the view that the villagers would agree to almost any reform in their villages, as long as they would be allowed to leave Ilimo quickly and return to their land.

731 177 Nonetheless, the terms of the exchange relationship between administration and mission on the one hand and the Orokaiva on the other had become a great deal clearer and more profound. The Australians had made gifts and had stated what they wanted from the Orokaiva in detailed, explicit terms. Furthermore, this had been done under the shadow of a calamity which was interpreted by the mission as a sign of God, if not God's punishment, indicating the dangers of not satisfying the Orokaiva's new exchange partners.

731 784 797 The administration has leveled much criticism against the mission for promulgating the theory that the eruption was a visitation of the wrath of God. Numerous instances are quoted of ecclesiastical blackmail: the bishop allegedly threatened to blow up the mountain a second time unless he was obeyed. The bishop denies these allegations and claims to have discouraged the belief that the eruption was a divine punishment of the (largely unbaptized) Orokaiva. He said it was the Orokaiva themselves who had this idea of retribution.

128 To explain the Orokaiva idea of the anger of God found in the preceding pages, I have brought together a somewhat haphazard collection of signs which make no sense if arranged in a synchronic pattern. They are a sequence of transactions which took place within the colonial macrosystem and were selected on no other grounds than that they were commonly invoked by Orokaiva in discourse about the 'new age'. Soldiers on punitive expeditions, physical punishment at the plantations, the warm exchange relations with Allied troops, the local government councils viewed as a gift from the whites to the Papuans—all these are random selections from history and owe their place in the analysis of the metalanguage to the fact that the Orokaiva commonly used them to signify the opposition 'old order/new age'.

731 784 776 797 Earlier in this section, I explained the idea of the 'anger of Sum-

731 biripa' in terms of a simple transactional sequence. The 'anger of
God' can be similarly explained, though here the sequence is more
784 complex. As a general device for constructing metalanguages,
776 transactional sequences are of course wholly inadequate. I have,
797 however, indicated that in the Orokaiva cognitive system God is
classified as an exchange partner (though more powerful than all
other possible partners).

The eruption thus becomes one of a sequence of signs which express the development of the exchange partnership with God. Similarly, in other explanatory systems, the eruption becomes part of a sequence of exchanges with Sumbiripa. It follows from this argument that the eruption changed the relationship witn God or Sumbiripa, in the sense that a sign of such magnitude provoked a response. While the sign may have existed as such only in the minds of the Orokaiva, the response was on the level of real social, economic, political, and religious behavior. The general form of Orokaiva metalanguages, as exemplified in the case of the eruption, is sketched in figure 1.

EXPLANATIONS AND THE COGNITIVE SYSTEM

128 We have now surveyed the four explanations given of the eruption
of Mount Lamington. In my discussion of the denotative systems, I
concentrated on two of them: the anger of Sumbiripa and the
anger of God. I did not specifically discuss the geophysical explanation
because it was too summary for analysis, nor did I analyze
the Yega explanation further because of the uncertainty about the
731 agent of vengeance. We have seen that the four explanations were,
in each case, not only a psychological response to calamity and a
184 philosophical exercise but also expressed ideologies essentially un-
829 connected with the eruption and that, in this respect, discourse
about the eruption was actually rhetoric used to express the
ideology.

121 The coexistence of four such ideologies in the same society poses obvious questions about their interrelations. Were they held by separate groups who did not communicate? Did they reflect divisions within the society? Furthermore, a formal problem arises: as these four explanatory systems all arise in one, fairly homogeneous society, are they in a sense cognate and do they display features of homology? On the basis of Orokaiva data, it may be possible to

121 construct a higher-level system which accounts for all the explanations taken together.

Let us first survey the relationships between the explanatory
731 systems on the social level. They do not logically contradict one
829 another: they can be and are held simultaneously by the same people.
184 There is no need to believe that the eruption was caused *either* by God *or* by Sumbiripa nor that the intended victims were *either*
[778] Orokaiva *or* Europeans. My informants did not seem to view God and Sumbiripa as wholly distinct. Whether one ascribed the eruption to one or the other depended on the context of the discourse. Most Orokaiva do connect the death of European public servants and army personnel at Higaturu with the hangings that occurred after the war. They believe that these Europeans acted wrongly and that God punished them. But at the same time they believe that the eruption was a sign of God's anger toward the Orokaiva who had not followed the laws of the Church of England.

One cannot, therefore, gauge the relative strength of the three ideologies by counting what proportion of a sample of Orokaiva informants subscribes to one or another of the three explanations. One can, however, evaluate the general effect of each of the three ideologies. The belief that Sumbiripa caused the eruption had only the mildest historical consequences—merely the reinforcement of a hunting taboo. The belief that the mountain erupted to punish Europeans might have become historically important if the mystical Yega cooperative movement had grown to a major millennial
[794] cult, but this did not happen. In fact, the Yega cooperatives went into a decline after 1951, owing to crop failure, the departure of its advisors, and governmental opposition in the form of economic and legal obstacles.

731 None of these reasons would have sufficed to kill the movement had there been, in the 1950s, a strong opposition to the adminis-
657 tration of the Northern District. There is, however, no evidence of
797 this. On the contrary there was, between 1951 and 1967, steadily increasing support for the ideologies advocated by government and mission. In this context the theory blaming the eruption on previous noncooperation by Orokaiva obtains some historical significance. It would be absurd to suggest that the increased support can actually be explained by the existence of the Orokaiva theory about the eruption. On the other hand, this support is now undoubtedly more powerfully motivated than if the eruption had

[TEXT CONTINUED ON PAGE 330]

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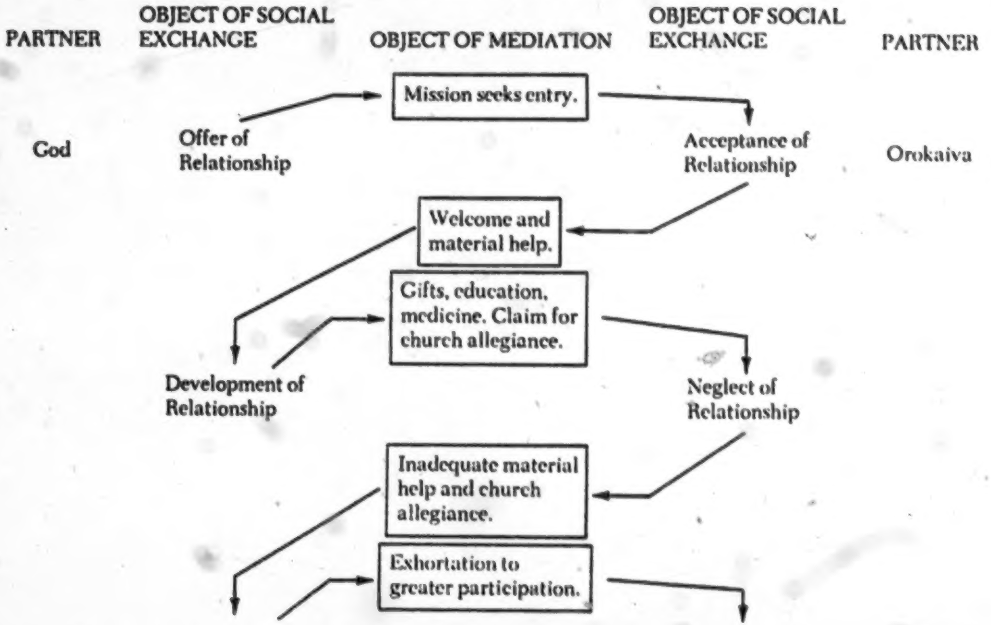
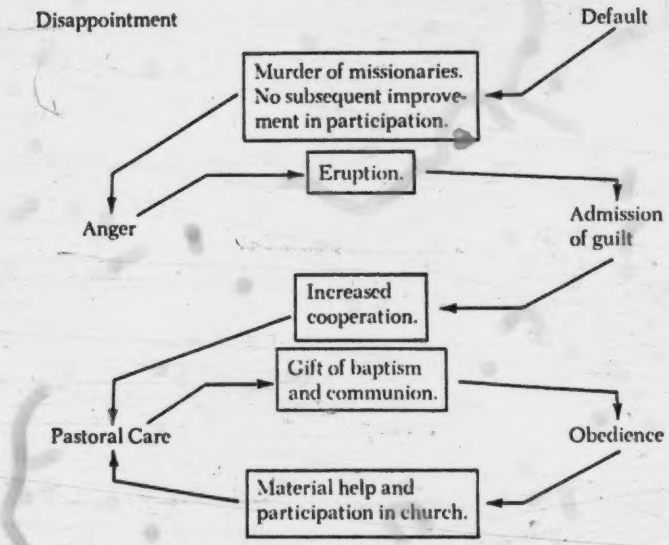
[p.328]

FIGURE 1 Example of Orokaiva Explanation of Anger of God


PARTNER
OBJECT OF SOCIAL EXCHANGE
OBJECT OF MEDIATION
OBJECT OF SOCIAL EXCHANGE
PARTNER
Mission seeks entry.
God
Offer of Relationship
Acceptance of Relationship
Orokaiva
Welcome and material help.
Gifts, education, medicine. Claim for church allegiance.
Development of Relationship
Neglect of Relationship
Inadequate material help and church allegiance.
Exhortation to greater participation.

[p.329]


Disappointment
Default
Murder of missionaries. No subsequent improvement in participation.
Anger
Eruption.
Admission of guilt
Increased cooperation.
Gift of baptism and communion.
Pastoral Care
Obedience
Material help and participation in church.

791
784
794

731 never occurred. The vast increase in the number of baptisms in-
dicates a significant development in the pattern of transactions in
657 the exchange relations with the new god.

797 The effect should not, however, be overestimated, as the en-
vironment and the socioeconomic situation did not change signifi-
731 cantly immediately after the eruption. No socioeconomic trans-
formation occurred because of the eruption or the belief that the
178 eruption itself was divine retribution for noncooperation with the government. On the other hand, significant social, political, and economic changes did happen within ten years or so of the eruption; and when these changes occurred, they were interpreted in a manner consistent with the Christian explanation of the eruption.

Let us now consider the relationship between the various ex-
731 planations on the religiophilosophical level. Perhaps the best
184 starting point for our analysis is our apperception that the three
778 religious explanations have to do with political strategies—that is,
with the maximization of power. It may be enlightening to look at these strategies in terms of the Orokaiva's own general ideas about power. The Orokaiva word for 'power' is *ivo*, a mana-like concept envisaging 'power' as derived from spirits and bringing success in difficult ventures by overcoming misfortune, obstacles, and enemies. Misfortunes are explained by 'power' coming from a hostile source—for instance, from one's human or spirit exchange partner during a cycle of negative reciprocity.

The first of these three explanations postulates the existence of a negative exchange cycle with Sumbiripa, so that the people's 'power' depends on placating Sumbiripa and avoiding his anger in the future. The second explanation postulates that, in fact, the disaster was a restoration of the 'power' of the Papuans, as it punished Europeans who hanged Orokaiva ambushers. The third explanation, however, raises some difficulties. The restoration of 'power' here seems to depend on obedience which must be shown to the mission and the government.

This question of obedience is perhaps more one of degree than of essence. Students of religion (such as van der Leeuw 1938) distinguish between relations of "manipulation" and "obedience" which may exist between man and the gods. In this sense the relations with Orokaiva deities, including Sumbiripa, would tend to be manipulative. On the other hand, the relationship with the Christian deity involves far greater and far more diffuse demands, 781 so that the room for manipulation becomes greatly reduced. Furthermore, the church teaches a doctrine of obedience, which the 184 Orokaiva nominally accept.

778 Taken at its face value, this would imply that the Orokaiva are satisfied to subordinate themselves to mission and government and do not consider themselves capable of serious competition with white authority. Such a notion of 'power'—that is, that it depends on obedience to white foreigners—has no rational basis in Orokaiva thought, since the bearer of 'power' cannot be subordinate to human power but only to spirit power. There are thus only two reasonable possibilities: either the ideology which made the eruption into a punishment by the Christian God denies the possibility that the Orokaiva henceforth can have 'power', or that ideology must make some distinction between, on the one hand, God and the principle of rightful authority (which should be obeyed on the pain of dire penalties) and, on the other hand, the existing ecclesiastical and political power bearers (who need not be regarded as having perpetual rightful authority). The position taken by Orokaiva informants on this question is not in the least ambiguous.

829 The Orokaiva are willing to obey the present power bearers, but only on the ground that they feel unready at present to assume power themselves. They regard the existing relationship as temporary. They are able to state this openly, since the Australian administration claims to prepare the way for early autonomy and optional independence. On the surface, there appears to be no acute political conflict.

In fact, however, the 'new age' ideology is fiercely competitive. The activities it advocates are perceived by Orokaiva as leading to a balance of power between the Europeans and themselves. The strong interest in schooling, savings clubs, coffee production, village improvement, wage labor, and so forth was explained time and again by the argument that these activities would ultimately place Papuans on the same level as Europeans and would remove the power differential. It was explained that in the 'new age' one no longer kills and eats the enemy because victory must now be achieved by different means. The reforms advocated by mission and government are perceived as the first weapons in the armory needed for victory. Victory, however, should not be understood here in the European sense, where it implies a permanent defeat of

829 the enemy, but rather in the Papuan sense, where one contends
with exchange partners in an inconclusive tug-of-war and the
strength of the opponents is approximately equal. Victory, in other
words, is the establishment of an equal rather than an unequal
relationship.

Given this view of the European-Orokaiva relationship, it is
difficult to distinguish between millenarian and gradualist ideologies
among the Orokaiva. They are all, in a sense, millenarian,
even though they advocate full collaboration with both mission
731 and government. From the more objective view I have taken here,
the three Orokaiva ideologies present at the time of the eruption
184 all convey the same message. They are all concerned with the restoration
829 of what the Orokaiva call 'power', which always implies
some form of power balance between themselves and their colonial
masters.

IDEOLOGY, POWER, AND LAND

128 As we have seen, all Orokaiva discourse about the eruption can be reduced to one basic theme: competition for power between Papuans and Europeans. I have not surveyed administration discourse about the eruption in the same detail, but it is safe to say that, apart from the mechanics of relief, the administration was likewise concerned with one central ideological theme, namely socioeconomic development. Our structural analysis would hardly be adequate unless we considered the relation between these two ideologies, not only in abstract terms but also in the framework of concrete events.

731 During the period immediately after the disaster, the administration
657 planned to make the evacuation camps the beginning
of permanent relocation under conditions where socioeconomic
development throughout the region could be accelerated (Belshaw
1951; Keesing 1952; Plant 1951). While this relocation was being
planned, the evacuees were adamant that they wished to go home
as soon as possible (Belshaw 1951; Kaad, personal communication).
That the administration gave in to the evacuees should not
be regarded as a Papuan demonstration of their own power but
rather as a necessary response to practical problems facing Orokaiva
as swidden agriculturists lacking a secure system of individual,
unencumbered landholding. The circumstances of the closing

781 of the evacuation camp provide an interesting case study in the
relation between administration and Papuan ideologies.

657 Several frightening explosions and floods occurred in February
and early March 1951. These vindicated the administration's
781 restricted area policy, which kept the mountain slopes out of
bounds. But after the period of acute volcanic phenomena was
166 over, Orokaiva pressure on Mr. Kaad, administrator of the Ilimo
Camp, grew steadily. The opening up of restricted areas began as
early as April 1951, so that the population of Ilimo began to
decline sharply in that month—from 2,000 to about 1,000. It
declined to 500 before the camp was closed in May. Although the
speed of resettlement did not actually conflict with administration
policy, Kaad freely admits that the pace was forced by Orokaiva
pressure.

This speedy return to the land was prompted largely by fears
which rapidly began to overshadow the Sasembata villagers' fear
[769] of the mountain. In part, these fears were religious. Separation
from the land meant separation from ancestral spirits who were
left altogether untended when the whole community lost access to
the land. Proper birth rites and ritual care for infants became
impossible, as was ritual care for the dead, for both must be
performed on the taro field associated with certain deceased
[423] consanguines. On the sociojural level, the migration of an entire agnatic
group was dangerous since it could activate residual rights over
land which were held by other agnatic groups.

121 It is likely that the same anguish about separation from the land
would have been felt by most swidden agriculturists in the same
circumstances. Such anguish cannot be fully explained by the religious
and jural system prevailing in one culture alone. My purpose
in this chapter, however, is more limited. It is to relate Orokaiva
ideas about the eruption to Orokaiva ideas about land and spatial
movement.

423 These ideas are part of the structural patterns to which I
referred above: the weakness of corporate groups and the emphasis
425 on the exchange system (see also Rimoldi 1966; Schwimmer
1970a, n.d.). At least half the land in Sivepe and nearly all the
land in Inonda is occupied by persons other than the agnatic
corporation acknowledged to be the "original" owners. Occupation
of such land arises mainly out of use rights granted by these
owners to nonagnates. In practice such use rights often become heredi-

423 425 tary within the user's agnatic group. Although the use rights were, at first, mostly granted as an act of friendship, occupation may continue even when positive reciprocity is no longer well maintained between owner and user and the owner would like to find pretexts for recovering the land.

It is a clear rule that land reverts to the owner as part of his residual rights as soon as the user ceases to occupy it. Hence departure, even by individuals, at once raises a problem of maintaining control over use-right land. An individual does not leave his land for more than a few days without appointing some person to look after it. This person may be an agnatic or uterine kinsman or an affine whose wife is consanguine to owner or user. Men taking jobs outside the village regularly resort to the appointment of a caretaker for their land. This practice has not only ritual but also legal implications. The caretaker will fight other claims to the land, if only because he himself has become the occupier and the legal beneficiary of its products. If the original occupier stays away too long and his social position in the village is not strong, he may have trouble recovering his land from the caretaker upon his return. This is a risk arising in many cases of labor migration, uxorilocal marriage, adoption, or departures prompted by personal conflicts.

731 423 425 Interviews I conducted in 1966 and 1967 showed that the evacuees at Ilimo were extremely fearful for the safety of their land. The danger they feared most was the activating of residual rights by persons whose agnatic group had at one time been associated with their land.[17] Community relocation, by its very nature, leaves nobody behind to look after the land. It thus creates a legal vacuum that is ordinarily absent in migrations of individuals and small groups. Any individual who sneaked out of Ilimo and settled on a coveted piece of land to which he had some residual rights would be hard to dislodge under the conditions of Pax Australiana because the Australians, so far, have been able to maintain law and order without the benefit of land registration.

182 423 614 The fears about losing the land which explain much of the tension at Ilimo Camp are a direct consequence of conflicts implicit in Orokaiva social structure. The institution of land borrowing, the retention of residual rights over several generations, and the consequent multiplicity of rights and claims over land parcels are directly related to the small size of corporate groups and the

182 423 614 dependence on the exchange system for the creation of larger solidarity networks. In a culture where warfare was endemic, these larger networks were indispensable in order for the traditional land tenure system, with its emphasis on multiple rights, to be socially adaptive under precontact conditions.

178 423 The 'new age' ideology, as expounded in 1966–1967, does not ignore these basic conflicts but incorporates them in the notion that multiple ownership belongs to the 'past age' whereas sole tenure is the modern ideal. There is strong support today for administration moves to establish a system of sole titles and to abolish the institution of multiple rights. Cash cropping has emphasized the need for such a change. In practice most Orokaiva today plant cash crops on patrimony land rather than on land on which there are invocable claims of residual rights.[18]

The movement toward individual landholding did not start in the Northern District until the mid-1950s, when there was a government-inspired attempt to have landholding titles issued by the Higaturu Local Government Council (see Crocombe and Hogbin 1963). I am not aware of any organized attempt to reform the system of Orokaiva land titles at or before the time of the eruption of Mount Lamington. If such reform is being introduced into the 'new age' ideology today, this must be credited to indoctrination mediated through members of the local government council.

● 731 657 423 We have seen that, at Ilimo, the traditional land tenure system was the basic cause of a conflict which strongly affected the course of the administration's resettlement policy. The officer in charge of the camp perceived two main purposes: to keep the people safe from the volcano and to rehabilitate them afterward in villages which would have a more modern life-style. As we have seen, the Orokaiva accepted both these objectives as desirable and benevolent. On the other hand, there was a difference in the importance that Orokaiva and administration attached to an early return to the home villages. The administration might have preferred a longer period of evacuation for the sake of safety from the volcano and also for the sake of its program of community education. They met, however, with a restlessness which made them hasten the disbanding of the camp. The same restlessness induced the Orokaiva to agree quickly to some programs of resettlement, not because these programs appealed to them very much but because agreement would hasten their return to the land. European

731 administrators, accustomed to secure forms of land tenure in their
own culture, could not fully share the Orokaiva anxiety about los-
657 ing their land.

423 This conflict between people and administration was settled amicably. It did, however, emphasize the fundamental difference between Orokaiva and European perceptions of the crisis. For the Orokaiva, it was the relatives—the holders of residual rights to land—who were viewed as the greatest danger, whereas the volcano was soon considered less dangerous. For the European, the relatives were not perceived as dangerous, as it was imagined they could somehow be controlled by the legal weapons available to centralized government. On the other hand, the danger of the volcano was viewed far more gravely, for the Europeans knew of no way to control future eruptions.

Both sides had a strong case in this disagreement. The Orokaiva had a strong case because the Europeans had no institutions that could have protected them against encroachments on their land. There was (and is) no adequate registry. The administration's case rested on its logical consistency with the development ideology it was trying to inculcate. The traditional Orokaiva land tenure system is incompatible with development because it impedes spatial movement and the traditional extended exchange network lacks the flexibility of a market system. Modernization depends on the creation of large corporate groups with well-defined systems of rights and obligations, instead of the subtle but essentially unstable web of warfare, diplomacy, affinity, and friendship. The 'new age' ideology of 1951, though fortified by the experience of the eruption, did not envisage modernization in this basic sense, while in 1966–1967 the implications of the 'new age' for land tenure and the kinship system were just being discovered.

This analysis of the 'new age' ideology indicates that it is
179 related only loosely to social and economic development. It arises
829 directly out of political competition between the Orokaiva, the
mission, and the government. Whenever new techniques appear to
the Orokaiva to serve this power struggle, their adoption is ad-
[731] vocated. We have seen that a traumatic event such as the eruption
of Mount Lamington, when it became the subject of Orokaiva
philosophizing, was at once put at the service of this competitive
struggle. Even when obedience to ecclesiastical and administra-
tive rules is advocated by the ideology—and when the dire conse-

179 quences of disobedience are stressed by the ideology—such an attitude is viewed by Orokaiva not as part of a permanent new order
829 but as a temporary expedient, a ploy in the power struggle.

Reform is advocated in terms of such strategy. Over the last fif-
[429] teen years we have seen that the Orokaiva have begun to accept the idea of converting land titles to sole tenure, as well as the inevitable consequences of such conversion for kinship organization. Such changes are explained in ideological terms as a necessary part of the competitive struggle against Europeans. The fact that Europeans view the same move as serving the cause of social and economic development is almost a coincidence.

Perhaps the most important practical conclusion we can draw about the genesis of cognitive structures has to do with the nature of power competition between Orokaiva and the administration. It is often supposed that development and political competition are separate processes in conflict with one another. The case in question shows that the Orokaiva view both aspects as part of an ongoing exchange relationship. It will have been noticed that in political debate Papuans, especially those in the villages, are reluctant to seek immediate political independence from Australia, even though tensions clearly exist. The point here is that they like to see the exchange relationships with their Australian partners continue, even though they wish to improve greatly their own position in that relationship. It may be, of course, that this attitude will change later. In the exchange relationship their own very considerable prestation is their subordination to foreign authority. In return they are receiving educational benefits which they value highly—not, fundamentally, because these benefits increase their private incomes but rather because they maximize Orokaiva power in the exchange relationship.

731 In addition, the material presented here may have theoretical implications with regard to the genesis and dynamics of cognitive
181 structures. We must distinguish here between macro- and micro-
178 processes. For the purpose of the discussion, I have assumed that the Orokaiva world view, with its notions of exchange and power, remained unchanged between 1951 and 1966. This assumption was convenient for the analysis, but it must be qualified. In 1966 I was given geophysical explanations of the eruption as well as magico-religious ones, and the former (though feebly held by a small elite) do prefigure a basic structural change in the Orokaiva

731 181 178 cognitive system. For the most part, however, I was concerned with microprocesses, such as the simultaneous development of explanatory systems based respectively on a tribal, Cargo Cult, and church-administration ideology. None of these ideologies was generated by the eruption, but the eruption was treated as a sign within the context of each of these ideologies, with a different interpretation in each case.

121 731 181 The eruption became a sign because it took its place in a series of ongoing transactions with supernatural beings. As such it had the effect of changing the relationships with these beings in regard to both duties and expectations. The eruption differed from other such signs mainly by its cataclysmic character and its unequivocal demonstration of power. The fact that different interpretations evolved is not an accident but mirrors an ongoing debate within the society. The evidence suggests that cognitive structures do not change by a process of unilineal development but by a process of internal differentiation opening up a dialectic between ideologies opposed to one another along the axes of basic social conflicts. In the Orokaiva case these axes were tribalism/regionalism and denial/acceptance of the partnership with European pow[illegible]. If opposition exists along these two axes, four systems are theoretically possible—namely, tribalism + denial, tribalism + acceptance, regionalism + denial, and regionalism + acceptance. As we have seen, each of these four combinations was found in actuality. The four Orokaiva theories thus form a well-structured whole, and together they express contemporary Orokaiva social reality. The structural changes that were taking place in the period 1951 to 1966 did not come out overtly in discourse but had been recognized and given meaning in terms of the ideologies in 1966.

NOTES

122 128 I acknowledge with gratitude financial help received from the Displaced Communities Project, the Canada Council, and the Killam Foundation in the preparation of this chapter. I thank Michael Lieber for his valuable comments on the original draft, which stimulated me to clarify and expand my arguments, and Sandra Wallman for her comments and criticisms. My wife, Ziska Schwimmer, gave valuable assistance in the interviewing of female informants in the sample communities. This chapter was written before independence for New Guinea became a reality.

121 1. In the Mount Lamington case, the institutional approach would produce results somewhat similar to Lessa's in his excellent paper "The Social Effects
[178] of Typhoon Ophelia (1960) on Ulithi" (1964). The major innovations over the last thirty years were due not to the eruption but to the Japanese invasion, the subsequent expulsion of the Japanese by Allied forces, the introduction of large-scale cash cropping, increased urban migration, and the development of officially supported indigenous political institutions.

The exchange theory approach of Blau and Barth has been followed to some extent in the present essay, but as Garbett (170:225) remarks in the essay already referred to: "Unless one wants to treat situations as simply another kind of 'small group' in an extra-laboratory setting for the testing of propositions from exchange theory, one's findings have to be related to, and set in, a wider context presumably studied by other methods."

2. For semiological discussion on the Road Code, see Lévi-Strauss (1958:chap. 5) and Leach (1970:chap. 2).

3. As an illustration of connotative systems, Barthes (1964a) analyzes a full-color advertisement for grated cheese, spaghetti, and tomato paste and shows that the items in the picture are so displayed as to connote all the delights of a carefree life in sunny Italy where foods are sweet, fresh, unadulterated, and perfect in appearance.

4. The relationship between signifier and signified suggested here may not be peculiar to "the savage mind" but universal, as is suggested by Lacan (1966: 493–528).

[114] 5. One of the first useful studies of regional colonial macrosystems known to me in New Guinea ethnography is Burridge (1960), which indicates clearly the modalities of conflict and alliance in the Papuan–administration–missionary triangle. Extremely important also is Fredrik Barth's work on polyethnic systems (1969) and on forms of regional organization in New Guinea (1971).

133 6. The term "Pelean eruption" is applied to the type that occurred at Mount Pelée (St. Pierre, Martinique) in 1902. A large mass of ash is projected rapidly into the stratosphere to form an expanding mushroom-shaped cloud. The base of the column begins to expand rapidly as clouds of incandescent ash (the *nuée ardente*) avalanche down the slopes. The *nuée ardente* is lethal because of sudden damage to the respiratory system caused by inhaling hot (200°F) dust.

101 7. The reports written by these two scholars (Belshaw 1951; Keesing 1952) led
114 to the inclusion of the case of the Mount Lamington Orokaiva in the project directed by H. G. Barnett and entitled "A Comparative Study of Cultural
731 Change and Stability in Displaced Communities" (1961).

8. Here and throughout this essay I use the term "structure" in the sense of
121 Lévi-Strauss (1958:chap. 15).

9. I have used British terminology in most of this essay as it seems hazardous to
781 adopt American terms in a British-French conceptual framework. Where I use clan, American anthrolopologists would usually write "sib." The term
166 "local clan group" refers to a coresident segment of a dispersed clan (or sib).
121 A full discussion may be found in Schwimmer (1970a).

731 10. Compare this with the school at Sasembata, which teaches to grade six.

871 731 11. A small band of Orokaiva captured European fugitives, including male and female missionaries, and handed them over to the Japanese. The members of this band came from the area east of Mount Lamington inhabited by what Williams called the Sauaha tribe.

184 182 12. Though the Sumbiripa cycle of myths was not noted by Williams, I feel confident it existed prior to 1951, partly on evidence given in Schwimmer (1969) and partly on the evidence of a myth recorded in Belshaw (1951).

823 13. For sources on Orokaiva leadership, see Reay (1953) and Schwimmer (1967).

773 731 [829] [101] 14. The term "Waseta tribe" used by Williams is perhaps unfortunate, as I demonstrated elsewhere (Schwimmer 1969:49–53). It is used here for the sake of convenience to group together the people from the Waseta area, all of whom were quartered at Ilimo evacuation camp. The name "Waseta" is not used as a tribal name by Orokaiva; it denotes no more than the village where Williams happened to do his fieldwork.

[184] [823] 15. See also Waddell and Krinks (1968:16, fn. 3). In the final section of this chapter, I argue that the geophysical explanation is important for anthropological analysis, since it foreshadows structural change in the Orokaiva cognitive system.

731 184 829 16. These two oppositions are, as I understand it, singled out for detailed study in most of the chapters in this comparative volume. Unfortunately, a more detailed discussion is impossible in this chapter. Transactions between government and people during the relocation process have been described fully in Schwimmer (1969), including the massive administration intervention in the evacuation camps, the changes of location of government and mission centers after the eruption, and the gradual widening of the scope of government and mission activities. In my earlier report, I also referred in detail to the manner in which the relation between whites and Papuans is mediated by Papuan mission teachers, village constables, and other functionaries. On an ideological level the entire 'new age' rhetoric discussed in this chapter may be regarded as a form of mediation between microsystem and macrosystem.

[619] With regard to boundary maintenance, empirical evidence is available in my earlier report about the relations between the evacuees and the people among whom they lived. At Ilimo something akin to traditional friendly host-guest relations were established. I stress in the present essay the ambiguity of the boundary maintenance patterns. There is an ideology advocating unity and there is increasing evidence of common action, especially in the context of formal organizations set up under the influence of administration and mission, while individual webs of intertribal relationships tend to become denser as a result of migration associated with schooling, employment, and so forth. At the same time, tribalism is still the underlying principle in most transactional contexts.

731 423 425 17. This does not contradict my earlier statement (1969:66) that there was a brief period when the evacuees feared the government would take their land. Kaad reported to me that this fear existed, and I do not doubt it. In

● 731 1966–1967, however, this fear was not mentioned to me by informants,
423 whereas I often heard of their worries about the danger that relatives from
other villages might take their land, goods, and chattels.
425 18. On the average, an Orokaiva derives approximately half his land from patri-
lineal inheritance. In accordance with British terminology, I have called this
178 "patrimony land." The other half comes from a variety of sources, mostly
423 from uterine kin.
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[pp. 342-400 not processed]